Multi-Hazard Mitigation Plan

Piatt County

2012

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Hazard Mitigation Plan

Piatt County, Illinois

Adoption Date: -- _____ --

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Table of Contents

Section 1 - Public Planning Process

1.1 Narrative Description

Hazard mitigation is defined as any sustained action to reduce or eliminate long-term risk to human life and property from hazards. The Federal Emergency Management Agency (FEMA) has made reducing hazards one of its primary goals; hazard mitigation planning and the subsequent implementation of resulting projects, measures, and policies is a primary mechanism in achieving FEMA's goal.

The Multi-Hazard Mitigation Plan (MHMP) is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000). The development of a local government plan is required in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs. In order for the National Flood Insurance Program (NFIP) communities to be eligible for future mitigation funds, they must adopt an MHMP.

In recognition of the importance of planning in mitigation activities, FEMA created **Ha**zards **US**A **M**ulti-**H**azard (Hazus-MH), a powerful geographic information system (GIS)-based disaster risk assessment tool. This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses. The Polis Center (Polis) at Indiana University Purdue University Indianapolis (IUPUI) and Southern Illinois University at Carbondale (SIU) are assisting Piatt County planning staff with performing the hazard risk assessment.

1.2 Planning Team Information

The Piatt County multi-hazard mitigation planning team is headed by Jim Donaldson, who is the Piatt County Emergency Manager and primary point of contact. Members of the planning team include representatives from the public, private, and governmental sectors. Table 1-1 identifies the planning team individuals and the organizations they represent.

Table 1-1: Multi-Hazard Mitigation Planning Team Members

Name	Title	Organization	Jurisdiction
Jim Donaldson	Director	Piatt County, IL, EMA	Piatt County
Jonathan Manuel	Resource Conservationist	Piatt County Soil and Water Conservation District	Village of Mansfield
Darrell Bush	Chief	Deland FPD	Village of Deland
Chris Corrie	Mayor	City of Monticello	City of Monitcello
Vevalee Smith	President	Atwood Village Board	Village of Atwood
Molly Stevens	President	Bement Village Board	Village of Bement
Brad Williams	President	Cerro Gordo Village Board	Village of Cerro Gordo
Tim Flavin	President	Hammond Village Board	Village of Hammond
Paula Chumley	President	Cisco Village Board	Village of Cisco
Brian Gregory	Captain	Mid-Piatt Fire Department	Piatt County
Blake West	Deputy Chief	Cerro Gordo Fire Department	Village of Cerro Gordo

Name	Title	Organization	Jurisdiction
Ron Rochyby	Chief Mid 5	Mid-Piatt Fire Department	Piatt County
James Mudd		Cerro Gordo Police Department	Village of Cerro Gordo
Shane Hector		Cerro Gordo Fire Department	Village of Cerro Gordo
Ron Weishaar	Chief	Cisco Fire Department	Village of Cisco
Tom Keagle		Kirby Ambulance	Piatt County

The Disaster Mitigation Act (DMA) planning regulations stress that planning team members must be active participants. The Piatt County MHMP committee members were actively involved on the following components:

- Attending the MHMP meetings
- Providing available GIS data and historical hazard information
- Reviewing and providing comments on the draft plans
- Coordinating and participating in the public input process
- Coordinating the formal adoption of the plan by the county

An MHMP kickoff meeting was held on June 1, 2011. Representatives from The Polis Center explained the rationale behind the MHMP program and answered questions from the participants. The Polis Center also provided an overview of Hazus-MH, described the timeline and the process of the mitigation planning project, and presented Piatt County with a Memorandum of Understanding (MOU) for sharing data and information.

The Piatt County Multi-Hazard Mitigation Planning Committee met on June 1, 2011, July 13, 2011, September 14, 2011, November 16, 2011, and January 18, 2012. Each meeting was approximately two hours in length. The meeting minutes and attendance are included in Appendix A. During these meetings, the planning team successfully identified critical facilities, reviewed hazard data and maps, identified and assessed the effectiveness of existing mitigation measures, established mitigation projects, and assisted with preparation of the public participation information.

1.3 Public Involvement in Planning Process

An effort was made to solicit public input during the planning process, and a public meeting was held on September 14, 2011 to review the county's risk assessment. Appendix A contains the minutes from the public meeting. Appendix B contains articles published by the local newspaper throughout the public input process.

1.4 Neighboring Community Involvement

The Piatt County planning team invited participation from various representatives of county government, local city and town governments, community groups, local businesses, and universities. The team also invited participation from adjacent counties to obtain their involvement in the planning process. Details of neighboring stakeholders' involvement are summarized in Table 1-2.

Table 1-2: Neighboring Community Participation

Person Participating	Neighboring Jurisdiction	Organization	Participation Description
Curtis Hawk	McLean County	McLean County EMA	Reviewed and commented on plan
John Dwyer*	Champaign County	Champaign County EMA Deputy	Reviewed and commented on plan
Joseph A. Victor	Douglas County	Douglas County EMA	Reviewed and commented on plan
Mr. Jan Haegen	Moultrie County	Moultrie County EMA	Reviewed and commented on plan
Jim Root	Macon County	Macon County EMA	Reviewed and commented on plan
Teresa Barnett-Hall	De Witt County	De Witt County EMA	Reviewed and commented on plan

** John Dwyer is a Deputy Director, and assuming communication responsibilities until a new Champaign County EMA Director is appointed.*

1.5 Review of Technical and Fiscal Resources

The MHMP planning team has identified representatives from key agencies to assist in the planning process. Technical data, reports, and studies were obtained from these agencies. The organizations and their contributions are summarized in Table 1-3.

Table 1-3: Key Agency Resources Provided

Agency Name	Resources Provided
U.S. Census Bureau	County Profile Information, e.g. Population and Physical Characteristics
Piatt County Assessor Office	Parcel Map, Tax and Structure Data
NOAA National Climatic Data Center	Climate Data
Illinois Emergency Management Agency	2007 Illinois Natural Hazard Mitigation Plan
United States Geological Survey	Physiographic/Hill Shade Map, Earthquake Information, Hydrology
Illinois State Geological Survey	Geologic, Karst Train, Physiographic Division and Coal Mining Maps
National Resources Conservation Services	Hydrology and watershed data

1.6 Review of Existing Plans

Piatt County and its local communities utilized a variety of planning documents to direct community development. These documents include land use plans, comprehensive plans, emergency response plans, municipal ordinances, and building codes. The planning process also incorporated the existing natural hazard mitigation elements from previous planning efforts. Table 1-4 lists the plans, studies, reports, and ordinances used in the development of the plan.

Table 1-4: Planning Documents Used for MHMP Planning Process

Author(s)	Year	Title	Description	Where Used
Piatt County	2010	Comprehensive Plan	Comprehensive plan for land use, transportation, and public facilities.	Sections related to hazards incorporated into MHMP.
State of Illinois Emergency Management Plan	2007	2007 Illinois Natural Hazard Mitigation Plan	This plan provides an overview of the process for identifying and mitigating natural hazards in Illinois as require by the Disaster Mitigation Act of 2000.	Guidance on hazards and mitigation measures and background on historical disasters in Illinois.

Section 2 – Jurisdiction Participation Information

The incorporated communities included in this multi-jurisdictional plan are listed in Table 2-1.

Table 2-1: Participating Jurisdictions

Jurisdiction Name
County of Piatt
City of Monticello
Village of Atwood*
Village of Bement
Village of Cerro Gordo
Village of Cisco
Village of Deland
Village of Hammond
Village of Mansfield

**Approximately half of this community lies in neighboring Douglas County. For the purpose of mitigation planning, Atwood has already participated in the Douglas County hazard mitigation plan. Representative of Atwood have chosen to passively participate in the Piatt County plan.*

2.1 Adoption by Local Governing Body

The draft plan was made available on January 18, 2012 to the planning team for review. Comments were then accepted. The Piatt County hazard mitigation planning team presented and recommended the plan to County Commissioners, who adopted it on <date adopted>. Resolution adoptions are included in Appendix F of this plan.

2.2 Jurisdiction Participation

It is required that each jurisdiction participates in the planning process. Table 2-2 lists each jurisdiction and describes its participation in the construction of this plan.

Table 2-2: Jurisdiction Participation

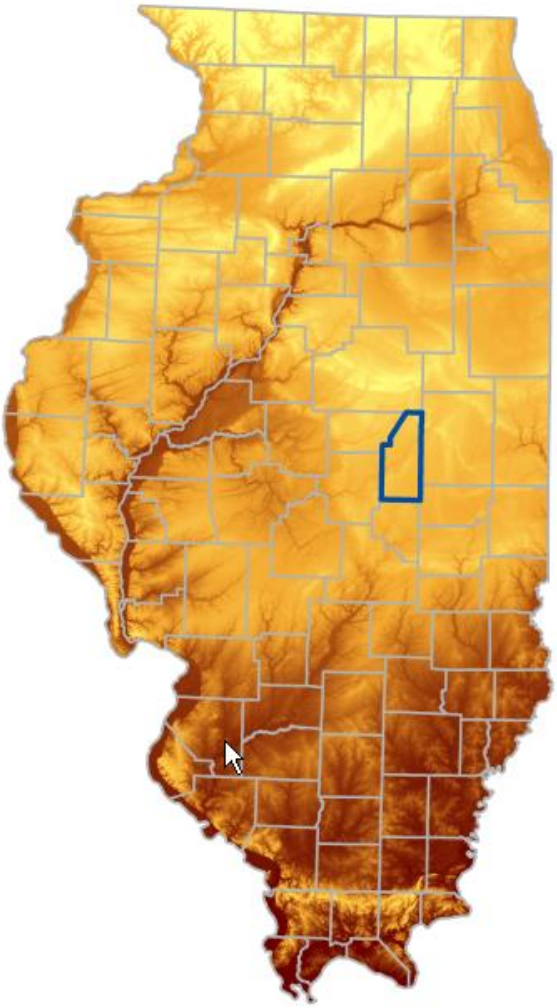
Jurisdiction Name	Participating Member	Participation Description
Piatt County	Jim Donaldson, EMA	Member, MHMP planning committee
Atwood	Vevalee Smith	Member, MHMP planning committee
Bement	Molly Stevens	Member, MHMP planning committee
Cerro Gordo	James Mudd	Member, MHMP planning committee
Cisco	Ron Weishaar	Member, MHMP planning committee
Deland	Darrell Bush	Member, MHMP planning committee
Hammond	Tim Flavin	Member, MHMP planning committee
Mansfield	Jonathan Manuel	Member, MHMP planning committee
Monticello	Chris Corrie	Member, MHMP planning committee

All members of the MHMP planning committee were actively involved in attending the MHMP meetings, providing available Geographic Information Systems (GIS) data and historical hazard information, reviewing and providing comments on the draft plans, coordinating and participating in the public input process, and coordinating the county's formal adoption of the plan.

Section 3 – Jurisdiction Information

Piatt County was formally organized in 1841 from Macon and De Witt counties. Two local residents, James A. Piatt and Jesse Warner, were instrumental in forming the county. It was named for James A. Piatt. Figure 3-1 depicts Piatt County's location.

Figure 3-1: Piatt County, Illinois



Piatt County is best known for the association with Abraham Lincoln who practiced law there as a circuit lawyer. Abraham Lincoln and Stephen A. Douglas planned their presidential debates in Piatt County in 1858.

The Piatt County seat is the city of Monticello, named after Thomas Jefferson's Virginia home.

3.1 Topography

Piatt County is located in east-central Illinois and has a total area of 440.33 square miles. The County is 34 miles long, containing 279,680 acres. Approximately 91% of this area is dedicated to cropland, 3% pasture, 1% woodland and 5% other (municipalities, waterways, highways). Elevations vary from 614 to 810 feet above sea level. Lying wholly within the Central Plains, Piatt County is dominated with flat fertile prairies with a ½- mile wide floodplain of the Sagamon River.

3.2 Climate

In Piatt County, mid-summer temperatures can be excessively hot and the winter snowfall can vary greatly from one year to the next. The average annual temperatures are 29.7°F in January and 72.9°F in July.

Precipitation is highest in the spring and summer months with an average annual rainfall of 39.68 inches. The prevailing wind is from the south during spring, summer, and the fall, and from the west during the winter months.

3.3 Demographics

According to the 2010 census, Piatt County has a population of 16,729. Although the population peaked at around 17,000 at the turn of the century, according to U.S. Census data, from 2000–2010, Piatt County experienced a population increase of 2.2%. The State of Illinois experienced a population increase of 3.3% for the same time period. Piatt County is expected to grow to 17,842 by 2030. The current population is spread through eight townships including Bement, Blue Ridge, Cerro Gordo, Goose Creek, Monticello, Sangamon, Unity, and Willow Branch. The largest jurisdiction in Piatt County is Monticello, which has a population of approximately 5,374. The breakdown of population by incorporated areas is included below in Table 3-1.

Table 3-1: Population by Community

Community	2009 Population	% of County
Monticello	5,374	32%
Bement	1,703	10%
Cerro Gordo	1,344	8%
Atwood	1,216	7.3%
Mansfield	911	5.4%
Hammond	508	3%
De Land	460	2.7%
Cisco	272	1.6%

Source: American FactFinder, 2009

The county has a population density of 38 people per square mile. The average household size is 2.5 persons compared to an average state family size of 3 persons.

3.4 Economy

The 2010 Piatt County Comprehensive Plan reported a labor force of 9,430. This indicates that 56% of the Piatt County population was employed, representing a 20% increase in the labor force since 1997. The breakdown is included in Table 3-2. Local government (public administration) represents the largest sector, employing approximately 16.2% of the workforce, followed by retail trade at 10.6%.

Table 3-2: Industrial Employment by Sector

Industrial Sector	% of County Workforce (2006)
Agriculture, forestry, fishing, hunting, and mining	N/A
Construction	9.1%
Manufacturing	5.5%
Wholesale trade	5.2%
Retail trade	10.6%
Transportation, warehousing and utilities	N/A
Information	N/A
Finance, insurance, real estate, and rental/leasing	8.8%
Educational, health, and social services	N/A
Arts, entertainment, recreation, accommodation and food services	6.9%
Other services(except public administration)	7.7%
Public administration	16.2%

Source: 2010 Piatt County Comprehensive Plan

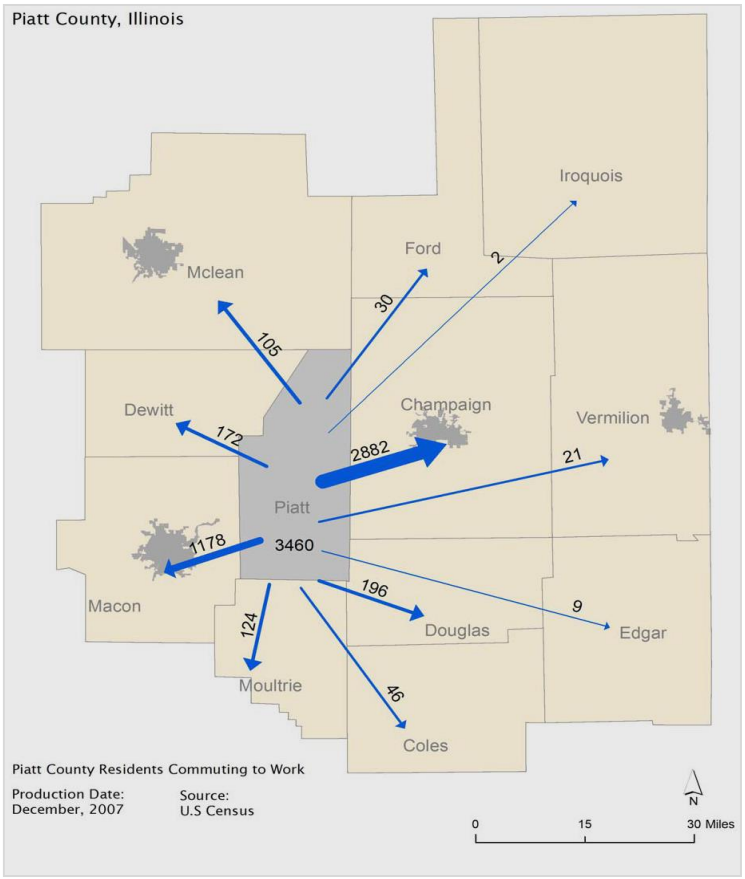
3.5 Industry

The Piatt County Comprehensive Plan also reports the largest employer in Piatt County is local government, comprising about 14% of the Piatt County work force. Retail trade and construction were also significant employment sectors, followed by farm employment. In terms of earnings, manufacturing and wholesale trade are also significant industries to Piatt County.

3.6 Commuter Patterns

According to the Piatt County Comprehensive Plan, more residents work in adjacent counties (58.7%) than within Piatt County (41.3%). The Comprehensive Plan also suggests almost 25% of the Piatt County employees live outside the county. Figure 3-2 depicts the commuting patterns from Piatt County into surrounding jurisdictions.

Figure 3-2: Commuter Patterns Out of Piatt County

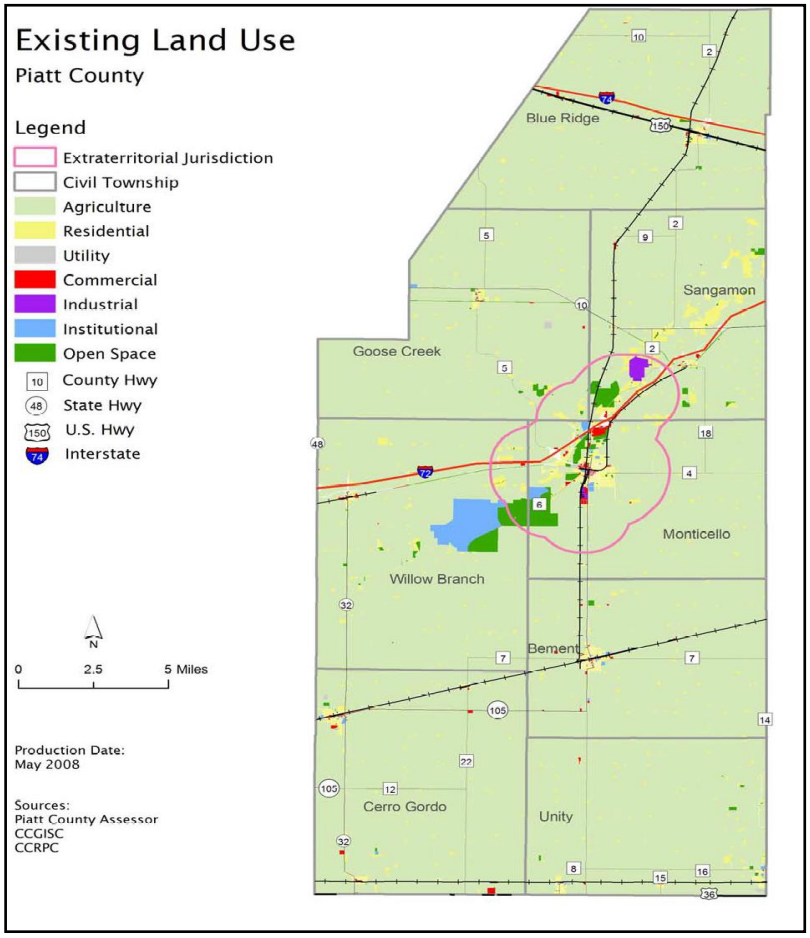


Source: U.S.Census

3.7 Land Use and Development Trends

Although agriculture appears to have a declining influence in Piatt County, it is still considered the predominant use of land within the county. The total number of farms in Piatt County has recently decreased, while the average farm size has increased significantly. Due to its productive farmland, the majority of farms are dedicated to crops rather than livestock. Corn is the primary crop, followed by soybeans, winter wheat, hay, and oats. Most of the agricultural land in Piatt County has been developed to effectively move excess water away from the fields using drainage tiles and ditches. Figure 3-3 depicts the current land use and dedicated acreage. Current land use maps for the incorporated communities within Piatt County are found in Appendix D.

Figure 3-3: Piatt County Land Use



Other significant land uses throughout the county include industrial and residential. Most of the residential land use in the county surrounds the municipalities. Table 3-4 depicts the use of land in Piatt County.

Table 3-4: Piatt County Land Use

Land Use	Dedicated Acres 2007	Percent Change Since 1968
Agricultural	263,096	+ 1.3%
Residential	7,594	+ 210%
Commercial	664	+ 836%
Industrial	1,269	- 35%
Open Space	5,506	+ 86%

Source: Piatt County Assessment Office

3.8 Major Lakes, Rivers, and Watersheds

Piatt County contains 461 linear miles of rivers, streams, and drainage ways. The most significant of these waterways is the Sangamon River, flowing southwest throughout the county. There are a number of creeks and streams including Camp Creek, Blue Ridge Special Creek, Goose Creek, Wildcat Creek, East Lake Fork, Madden Creek, and Willow Branch. Reservoirs include Four-H Lake and Arrowhead Lake.

A list of Hydrologic Unit Code (HUC8) watersheds within Piatt County is included below in Table 3-5.

Table 3-5 Watersheds

Watershed Name	HUC Code
Upper Kaskaskia River	07140201
Sangamon River	07130006

Source: U.S. Environmental Protection Agency

Section 4 – Risk Assessment

The goal of mitigation is to reduce the future impacts of a hazard including loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on sound risk assessment. A risk assessment involves quantifying the potential loss resulting from a disaster by assessing the vulnerability of buildings, infrastructure, and people. This assessment identifies the characteristics and potential consequences of a disaster, how much of the community could be affected by a disaster, and the impact on community assets. A risk assessment consists of three components: hazard identification, vulnerability analysis, and risk analysis.

4.1 Hazard Identification/Profile

4.1.1 Existing Plans

The plans identified in Table 1-4 did not contain a risk analysis. These local planning documents were reviewed to identify historical hazards and help identify risk. To facilitate the planning process, DFIRM maps were used for the flood analysis.

4.1.2 National Hazard Records

4.1.2.1 National Climatic Data Center (NCDC) Records

To assist the planning team, historical storm event data was compiled from the National Climatic Data Center (NCDC). NCDC records are estimates of damage reported to the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to given weather events.

The NCDC data included 207 reported events in Piatt County between January 1, 1961 and December 31, 2011. A summary table of events related to each hazard type is included in the hazard profile sections that follow. A full table listing all events, including additional details, is included as Appendix D. In addition to NCDC data, Storm Prediction Center (SPC) data associated with tornadoes, strong winds, and hail were plotted using SPC recorded latitude and longitude. These events are included as Appendix D. The list of NCDC hazards is included in this plan is in Table 4-1. For the purpose of this report, severe thunderstorm will include hail, rain, lightening, and high winds; winter storms include ice and snow.

Table 4-1: Climatic Data Center Historical Hazards

Hazard
Tornadoes
Severe Thunderstorms
Drought/Extreme Heat
Winter Storms
Floods/Flash Floods

4.1.2.2 FEMA Disaster Information

In the past decade, FEMA has declared a number of emergencies and disasters for the state of Illinois. Emergency declarations allow states access to FEMA funds for Public Assistance (PA); disaster declarations allow for even more PA funding including Individual Assistance (IA) and the Hazard Mitigation Grant Program (HMGP). Piatt County has received federal aid for both PA and IA funding for six declared disasters since 1961. Figure 4-1 depicts the disasters and emergencies that have been declared for Piatt County within the past decade. Table 4-2 lists more specific information for each declaration.

Figure 4-1: FEMA-Declared Emergencies and Disasters in Piatt County (1961-present)

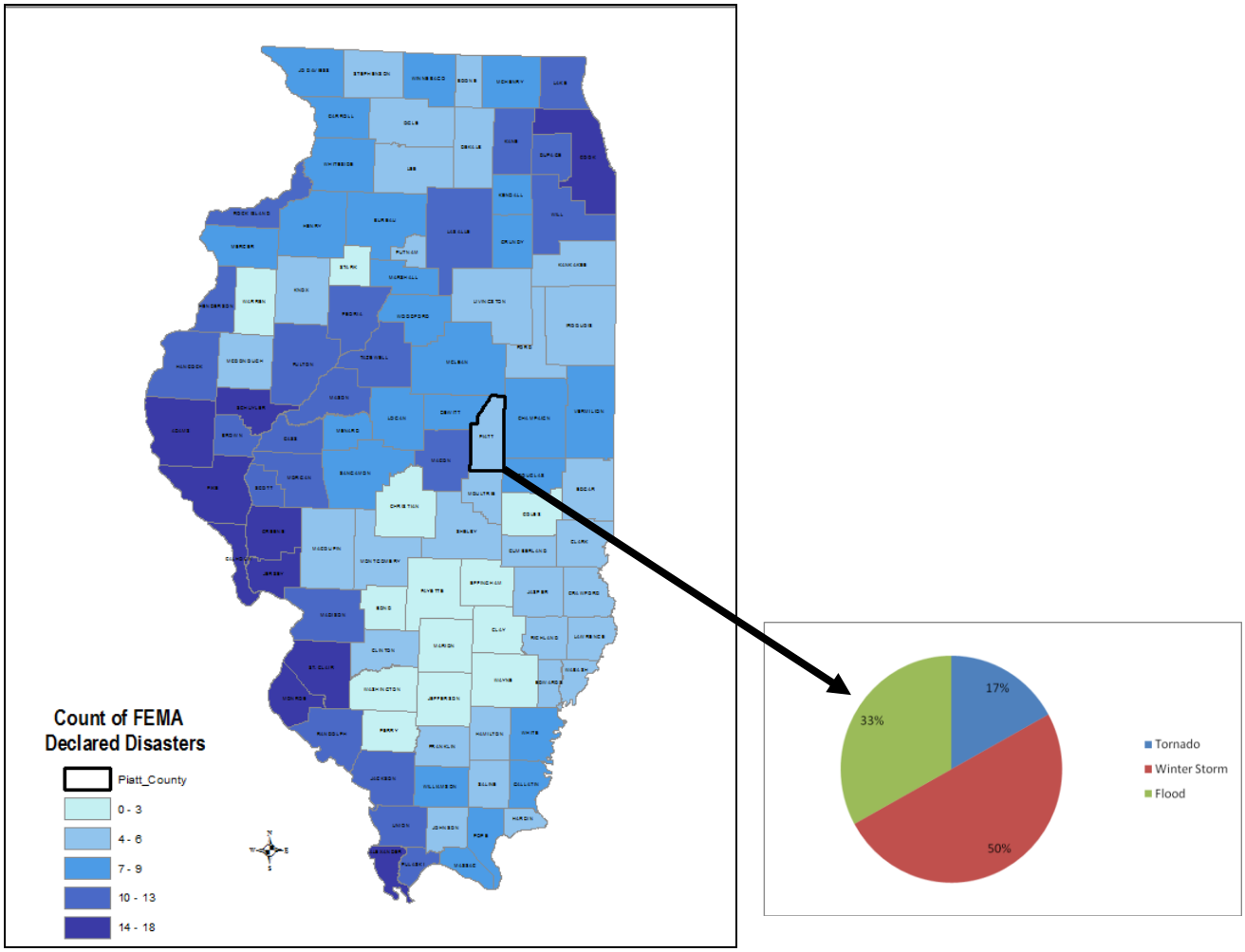


Table 4-2: FEMA-Declared Emergencies in Piatt County (1961-present)

Date of Incident	Date of Declaration	Disaster Description	Type of Assistance
6/05/1968	6/05/1968	Severe Storms, Tornadoes, and Flooding	Public and Individual
02/14/1990 – 02/15/1990	03/06/1990	Ice Storms, Freezing Rain, Wind, Power Outages	Public
04/09/1994 – 05/04/1994	04/26/1994	Severe Storms, Flooding	Public and Individual
01/01/1999 – 01/15/1999	01/08/1999	Winter Snow Storm	Public
04/21/2002 – 05/23/2002	05/21/2002	Severe Storms, Tornadoes, and Flooding	Individual
11/30/2006 – 12/01/2006	02/09/2007	Severe Winter Storm	Public

4.1.3 Hazard Ranking Methodology

During Meeting #2, held on July 13, 2011, the planning team reviewed historical hazards information and participated in a risk analysis using a projector and Excel spreadsheet. The spreadsheet listed the compiled NCDC data for each community.

The spreadsheet calculated the probability rating (Low, Medium, High) of each hazard based on the number of events that have occurred in the county within the past 50 years. Throughout the planning process, the MHMP team had the opportunity to update the NCDC data with more accurate local information. For example, the NCDC records often list the locations of hazards such as floods under the county, not accounting for how the individual communities were affected. In such situations, the probability rating assigned to the county was applied to all jurisdictions within the county.

Team consensus was also important in determining the probability of hazards not recorded by NCDC, for example dam and levee failure and hazardous materials spills. The probabilities for these hazardous events were determined by the planning team's estimation, derived from local experience and records, of the number of historical events that have occurred within the past 50 years. The probability ratings are based on the following guidelines:

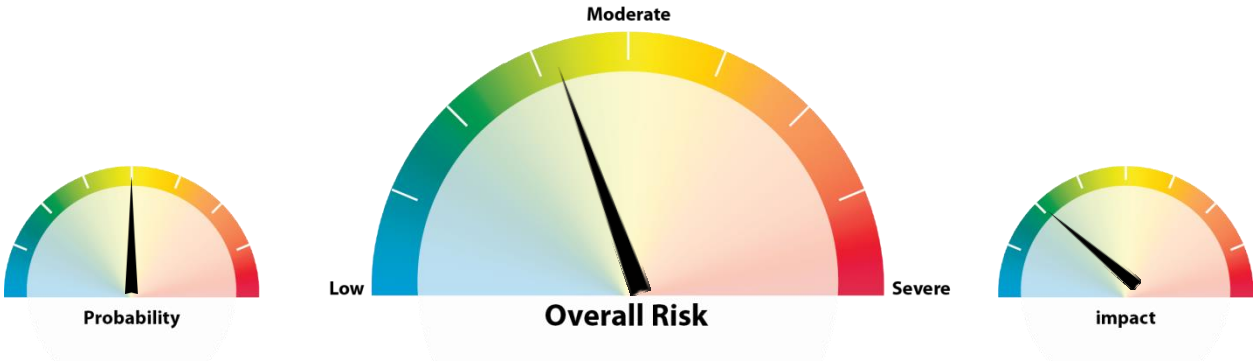
- Low = 0 - 5 events
- Medium = 6 - 15 events
- High = 16 + events

After improving the NCDC data with additional local data, the team determined each hazard's potential impact on the communities. The impact rating (Minimal, Moderate or Significant) was based on the following guidelines.

- Minimal = Few injuries
  Critical facilities shut down for 24 hours
  Less than 15% of property damaged
- Moderate = Multiple injuries
  Critical facilities shut down for 1-2 weeks
  At least 30% of property damaged
- Significant = Multiple deaths
  Critical facilities shut down for more than 1 month
  More than 50% of property damaged

Finally, the overall hazard risk was determined by multiplying probability and impact. It is important to consider both probability and impact when determining risk. For example, if an asteroid were to collide with Earth, the impact would be extreme; but the probability of a catastrophic asteroid strike (has not happened in billions of years) is so small that the overall risk would be extremely low. In human history, there has never been a recorded fatality attributed to meteor collusion. In contrast, other potentially damaging events like tornados, thunderstorms and floods are relatively less severe but occur more frequently throughout Illinois and Piatt County.

Each hazard addressed within the plan will use the dashboard image to represent the probability, impact, and overall risk ratings. Depicted as follows:



The planning team identified severe thunderstorms, winter weather, and flooding as the three most significant hazards affecting Piatt County. The team also determined the risk of dam and levee failure was negligible so no risk analysis was discussed. The planning team also decided the risk of Ground failure/subsidence was insignificant. The hazard rankings are listed below in Table 4-3.

Table 4-3: Piatt County Hazards

HAZARD CATEGORIES	HAZARD PROBABILITY	HAZARD IMPACT	HAZARD RISK
	(Low, Medium, High)	*(Minimal, Moderate, Significant)*	*(Low, Moderate, Severe)*
Piatt County (ALL)			
Tornado	High	Minimal	Low
Flood	High	Moderate	Severe
Earthquake	Low	Minimal	Low
Severe Thunderstorm	High	Significant	Severe
Winter Weather	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Low	Moderate	Low
Structural Failure & Fires	Low	Significant	Moderate
ATWOOD			
Tornado	High	Moderate	Severe
Flood	Low	Moderate	Low
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Low	Moderate	Low
Structural Failure & Fires	Low	Significant	Moderate
BEMENT			
Tornado	High	Moderate	Severe
Flood	Low	Moderate	Low
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Medium	Significant	Moderate
Structural Failure & Fires	Low	Significant	Moderate
CERRO GORDO			
Tornado	High	Moderate	Severe
Flood	Low	Moderate	Low
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Low	Significant	Moderate
Structural Failure & Fires	Low	Significant	Moderate
CISCO			
Tornado	High	Moderate	Severe
Flood	Low	Minimal	Low
Earthquake	Low	Minimal	Low

HAZARD CATEGORIES	HAZARD PROBABILITY	HAZARD IMPACT	HAZARD RISK
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Low	Moderate	Low
Structural Failure & Fires	Low	Significant	Moderate
DELAND			
Tornado	High	Moderate	Severe
Flood	Low	Minimal	Low
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Low	Minimal	Low
Structural Failure & Fires	Low	Minimal	Low
HAMMOND			
Tornado	High	Moderate	Severe
Flood	Medium	Moderate	Moderate
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Medium	Significant	Moderate
Structural Failure & Fires	Low	Minimal	Low
MANSFIELD			
Tornado	High	Moderate	Severe
Flood	Low	Moderate	Low
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	Medium	Significant	Moderate
Structural Failure & Fires	Low	Moderate	Low
MONTICELLO			
Tornado	High	Significant	Severe
Flood	High	Significant	Severe
Earthquake	Low	Minimal	Low
Severe Thunderstorm/Hail/ Lightning/High Wind	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Moderate	Moderate
Hazardous Materials Release	High	Significant	Severe
Structural Failure & Fires	Medium	Significant	Moderate

4.1.4 GIS and Hazus-MH

The third step in this assessment is the risk analysis, which quantifies the risk to the population, infrastructure, and economy of the community. Where possible, the hazards were quantified using GIS analyses and Hazus-MH. This process reflects a level two approach to analyzing hazards as defined for Hazus-MH. The approach includes substitution of selected default data with local data. This process improved the accuracy of the model predictions.

Hazus-MH generates a combination of site-specific and aggregated loss estimates depending upon the analysis options that are selected and the input that is provided by the user. Aggregate inventory loss estimates, which include building stock analysis, are based upon the assumption that building stock is evenly distributed across census blocks/tracts. Therefore, it is possible that overestimates of damage will occur in some areas while underestimates will occur in other areas. With this in mind, total losses tend to be more reliable over larger geographic areas than for individual census blocks/tracts. It is important to note that Hazus-MH is not intended to be a substitute for detailed engineering studies. Rather, it is intended to serve as a planning aid for communities interested in assessing their risk to flood-, earthquake-, and hurricane-related hazards. This documentation does not provide full details on the processes and procedures completed in the development of this project. It is only intended to highlight the major steps that were followed during the project.

Site-specific analysis is based upon loss estimations for individual structures. For flooding, analysis of site-specific structures takes into account the depth of water in relation to the structure. Hazus-MH also takes into account the actual dollar exposure to the structure for the costs of building reconstruction, content, and inventory. However, damages are based upon the assumption that each structure will fall into a structural class, and structures in each class will respond in a similar fashion to a specific depth of flooding or ground shaking. Site-specific analysis is also based upon a point location rather than a polygon, therefore the model does not account for the percentage of a building that is inundated. These assumptions suggest that the loss estimates for site-specific structures as well as for aggregate structural losses need to be viewed as approximations of losses that are subject to considerable variability rather than as exact engineering estimates of losses to individual structures.

The following events were analyzed. The parameters for these scenarios were created through GIS, Hazus-MH, and historical information to predict which communities would be at risk.

Using Hazus-MH
1. 100-year overbank flooding
2. Earthquake scenarios

Using GIS
1. Tornado
2. Hazardous material release

Using Historical Information
1. Tornado
2. Flood and Dam/Levee
3. Earthquake
4. Thunderstorm
5. Drought
6. Winter Storm
7. Hazardous Materials
8. Fire

4.2 Vulnerability Assessment

4.2.1 Asset Inventory

4.2.1.1 Processes and Sources for Identifying Assets

The Hazus-MH data is based on best available national data sources. The initial step involved updating the default Hazus-MH data using State of Illinois data sources. At Meeting #1, the planning team members were provided with a plot and report of all Hazus-MH critical facilities. The planning team took GIS data provided by Polis-SIU; verified the datasets using local knowledge, and allowed Polis-SIU to use their local GIS data for additional verification. Polis-SIU GIS analysts made these updates and corrections to the Hazus-MH data tables prior to performing the risk assessment. These changes to the Hazus-MH inventory reflect a level two analysis. This update process improved the accuracy of the model predictions.

The default Hazus-MH data has been updated as follows:

- The Hazus-MH defaults, critical facilities, and essential facilities have been updated based on the most recent available data sources. Critical and essential point facilities have been reviewed, revised, and approved by local subject matter experts at each county.
- The essential facility updates (schools, medical care facilities, fire stations, police stations, and EOCs) have been applied to the Hazus-MH model data. Hazus-MH reports of essential facility losses reflect updated data.

The default aggregate building inventory tables have been replaced with the most recent Assessor records. Piatt County provided the parcel boundaries to The Polis Center using Piatt County Assessor records. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary. Each parcel point was linked to an Assessor record based upon matching parcel numbers. The generated building inventory points represent the approximate locations (within a parcel) of building exposure. The parcel points were aggregated by census block.

Parcel-matching results for Piatt County are listed in Table 4-4.

Table 4-4: Parcel-Matching for Piatt County

Data Source	Count
Assessor Records	11,845
County Provided Parcels	12,318
Assessor Records with Improvements	7,705
Matched Parcel Points	7,692

The following assumptions were made during the analysis:

- The building exposure is determined from the Assessor records. It is assumed that the population and the buildings are located at the centroid of the parcel.
- The algorithm used to match county-provided parcel point locations with the Assessor records is not perfect. The results in this analysis reflect matched parcel records only. The parcel-matching results for Piatt County are included in Table 4-4.
- Population counts are based upon 2.5 persons per household. Only residential occupancy classes are used to determine the impact on the local population. If the event were to occur at night, it would be assumed that people are at home (not school, work, or church).
- The analysis is restricted to the county boundaries. Events that occur near the county boundaries do not contain damage assessments from adjacent counties.

4.2.1.2 Facilities: Essential, Critical, Community Assets

For the purpose of this plan, ***essential facilities*** are defined as the core critical facilities that are vital to the county in the event of a hazard. These include Emergency Operations Centers, police departments, fire stations, schools, and care facilities.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Table 4-5 identifies the essential facilities that were added or updated for the analysis. Essential facilities are a subset of critical facilities. Names of all essential facilities are documented in Appendix E.

Table 4-5: Essential Facilities List

Facility	Number of Facilities
Care Facilities	2
Emergency Operations Centers	1
Fire Stations	9
Police Stations	9
Schools	21

Critical facilities are additional entities that are deemed economically or socially viable to the county, including communication facilities, utilities, transportation facilities, infrastructure, and hazardous materials sites. Names of all critical facilities are documented in Appendix E.

The Piatt County Mitigation Planning team has also identified facilities that are a significant component to the county; for example, historic landmarks or significant tourist attractions. Throughout this plan, these will be referred to as ***community assets***. Names of all community assets are documented in Appendix E.

4.2.1.3 Facility Replacement Costs

Facility replacement costs and total building exposure are identified in Table 4-6. The replacement costs have been updated by local data. Table 4-6 also includes the estimated number of buildings within each occupancy class.

Table 4-6: Building Exposure

General Occupancy	Estimated Total Buildings	Total Building Exposure (X 1000)
Agricultural	562	$22,563
Commercial	430	$34,591
Education*	0	Not available*
Government*	461	Not available*
Industrial	8	$1,318
Religious/Non-Profit*	0	Not available*
Residential	6,231	$223,442
Total	**7,692**	**$281,914**

** Structure value and/or number of structures not available from Assessor data*

4.3 Future Development

As the county's population continues to grow, the residential and urban areas will extend further into the county, placing more pressure on existing transportation and utility infrastructure while increasing the rate of farmland conversion; Piatt County will address specific mitigation strategies in Section 5 to alleviate such issues.

Because Piatt County is vulnerable to a variety of natural and technological threats, the county government—in partnership with state government—must make a commitment to prepare for the management of these types of events. Piatt County is committed to ensuring that county elected and appointed officials become informed leaders regarding community hazards so that they are better prepared to set and direct policies for emergency management and county response.

4.4 Hazard Profiles

4.4.1 Tornado Hazard

Hazard Definition for Tornado Hazard

Tornadoes pose a great risk to the Illinois and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of the state's most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region's developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms to the ground. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are now classified according to the Enhanced Fujita tornado intensity scale. The tornado scale ranges from low intensity EF0 with effective wind speeds of 65 to 85 miles per hour to EF5 tornadoes with effective wind speeds of over 200 miles per hour. The Enhanced Fujita intensity scale is described in Table 4-7.

Table 4-7: Enhanced Fujita Tornado Rating

Enhanced Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 *Gale*	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 *Moderate*	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 *Significant*	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 *Severe*	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 *Devastating*	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 *Incredible*	Over 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: NOAA Storm Prediction Center

Previous Occurrences for Tornado Hazard

There have been several occurrences of tornadoes within Piatt County during the past few decades. The NCDC database reported 25 tornadoes/funnel clouds in Piatt County since 1961. These tornadoes have been attributed with one death, nine injuries, and almost $7.2 million dollars in property damage. On October 24, 2001, an F2 tornado touched down on the southwest side of Monticello, IL. A farm implement building was destroyed, and the debris from the building was thrown into a nearby power substation, causing long-term power outages and $2.2 million in damages. Piatt County NCDC-recorded tornadoes are identified in Table 4-8. Additional details for NCDC events are included in Appendix C.

Source: University of Illinois

Table 4-8: Piatt County Tornadoes*

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Piatt	4/3/1974	Tornado	F1	0	0	3K	0
Piatt	4/3/1974	Tornado	F0	0	0	3K	0
Piatt	6/19/1974	Tornado	F0	0	0	0	0
Piatt	3/20/1976	Tornado	F4	0	5	2.5M	0
Piatt	11/19/1985	Tornado	F1	0	0	250K	0
Piatt	5/16/1986	Tornado	F1	0	0	3K	0
Piatt	4/11/1987	Tornado	F1	0	0	250K	0
Piatt	5/16/1991	Tornado	F0	0	0	0	0
Monticello	8/16/1993	Tornado	F0	0	0	0	0
Melmine	4/19/1996	Tornado	F1	0	0	500K	0
Monticello	4/19/1996	Tornado	F1	0	1	1.0M	0
Monticello	4/30/1997	Tornado	F0	0	0	0	0
Cisco	4/8/1999	Tornado	F1	1	3	150K	0
Mansfield	6/4/1999	Tornado	F0	0	0	0	0
Mansfield	6/4/1999	Tornado	F0	0	0	0	0
Lodge	4/20/2000	Tornado	F0	0	0	0	0
Mansfield	6/20/2000	Tornado	F0	0	0	0	0
Monticello	10/24/2001	Tornado	F2	0	0	2.2M	0
Monticello	5/14/2003	Tornado	F0	0	0	0	0
Bement	5/31/2006	Tornado	F0	0	0	0	0
Cisco	7/26/2006	Tornado	F0	0	0	0	0
Cisco	7/26/2006	Tornado	F0	0	0	0	0
Cisco	7/26/2006	Tornado	F0	0	0	0	0
Cisco	7/26/2006	Tornado	F0	0	0	0	0
Monticello	7/26/2006	Tornado	F0	0	0	0	0

** NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.*

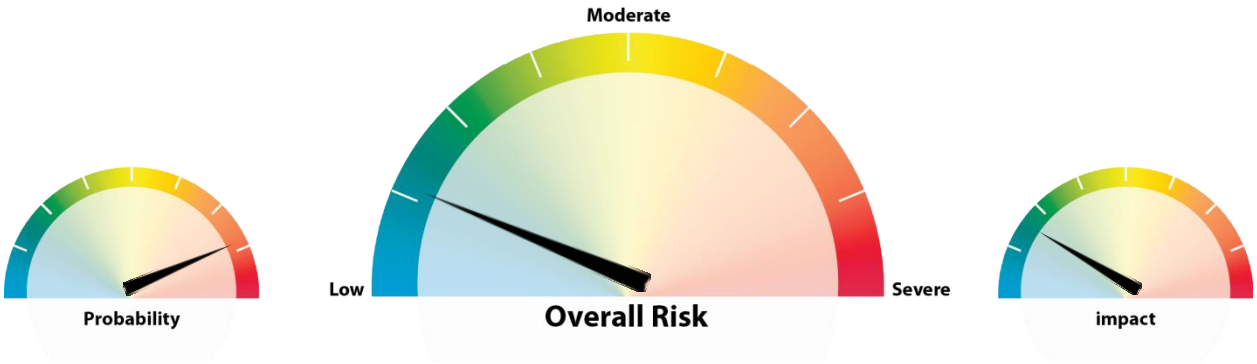
Geographic Location for Tornado Hazard

The entire county has the same risk for occurrence of tornadoes. They can occur at any location within the county.

Hazard Extent for Tornado Hazard

The historical tornadoes generally moved from southwest to northeast across the county, although other tracks are possible. The extent of the hazard varies both in terms of the extent of the path and the wind speed.

Risk Identification for Tornado Hazard



Based on historical information, the probability of a tornado is high. Tornadoes with varying magnitudes are expected to occur. In Meeting #2, the planning team determined that the potential impact of a tornado is minimal; therefore, the overall risk of a tornado hazard for Piatt County is low.

Vulnerability Analysis for Tornado Hazard

Tornadoes can occur within any area in the county; therefore, the entire county population and all buildings are vulnerable to tornadoes. To accommodate this risk, this plan will consider all buildings located within the county as vulnerable. Since the probability for a tornado in Piatt County is high, the planning team elected to model two tornado events for the purpose of disaster planning. The existing buildings and infrastructure in Piatt County are discussed in Table 4-6.

At-Risk Facilities

All essential and critical facilities and community assets are vulnerable to tornadoes. These facilities will encounter many of the same impacts as any other building within the jurisdiction. The impacts will vary based on the magnitude of the tornado but can include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). Table 4-6 lists the types and numbers of all of the essential facilities in the area. A comprehensive list of the Piatt County essential and critical facilities and community assets is included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

The building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for essential and critical facilities and community assets. These impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, and loss of building function (e.g. damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a tornado the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these items could become damaged during a tornado. The impacts to these items include broken, failed, or impassable roadways, broken or failed utility lines (e.g. loss of power or gas to community), and railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

Source: www.crh.noaa.gov

Example scenarios are described as follows to gauge the anticipated impact of tornadoes in the county, in terms of numbers and types of buildings and infrastructure. Since the probability for a tornado in Piatt County is high, the planning team elected to model two tornado events

Hazus-MH Tornado Analysis – *Scenario #1*

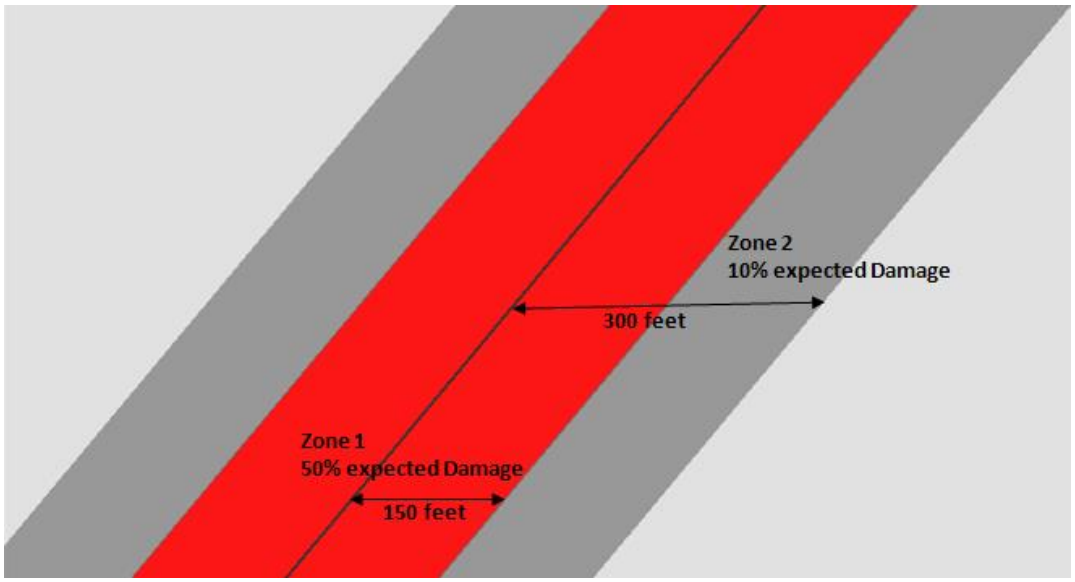
In the first scenario, GIS overlay modeling was used to determine the potential impacts of an EF-2 tornado. This analysis used a hypothetical path based upon an EF-2 tornado event that ran for 20 miles through towns of Cisco and Mansfield. The selected widths were modeled after a recreation of the Enhanced Fujita Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these six categories. Table 4-9 depicts tornado damage curves as well as path widths.

Table 4-9: Tornado Path Widths and Damage Curves

Enhanced Fujita Scale	Path Width (feet)	Maximum Expected Damage
EF5	2,400	100%
EF4	1,800	100%
EF3	1,200	80%
EF2	600	50%
EF1	300	10%
EF0	150	0%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path with decreasing amounts of destruction away from the center. After the hypothetical path is digitized on a map the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 4-2 and Table 4-10 describe the zone analysis. The selected hypothetical tornado path is depicted in Figure 4-3, and the damage curve buffers are shown in Figure 4-4 and Figure 4-5.

Figure 4-2: EF2 Tornado Analysis Using GIS Buffers



An EF2 tornado has two damage zones. 50% damage to buildings is estimated within 150 feet of the tornado path. The outer buffer is 300 feet from the tornado path, within which buildings will experience 10% damage.

Table 4-10: EF2 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	50%
2	150-300	10%

The selected hypothetical tornado path is depicted in Figure 4-3, and the damage curve buffers are shown in Figures 4-4 and 4-5.

Figure 4-3: Hypothetical EF-2 Tornado Path in Piatt County

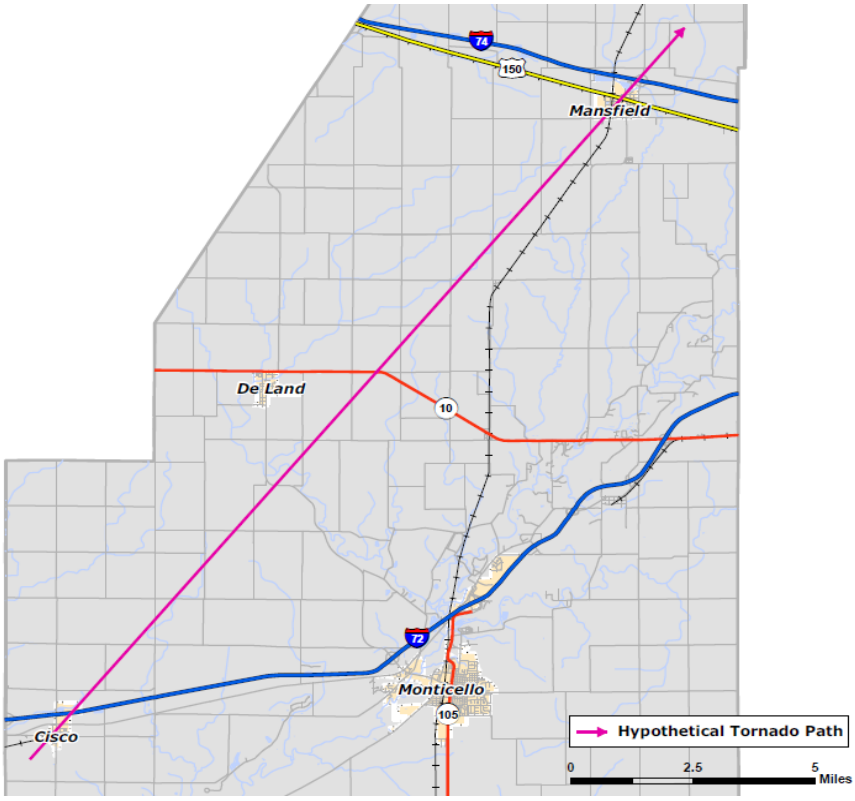


Figure 4-4: Modeled EF2 Tornado Damage Buffers in Mansfield, Piatt County

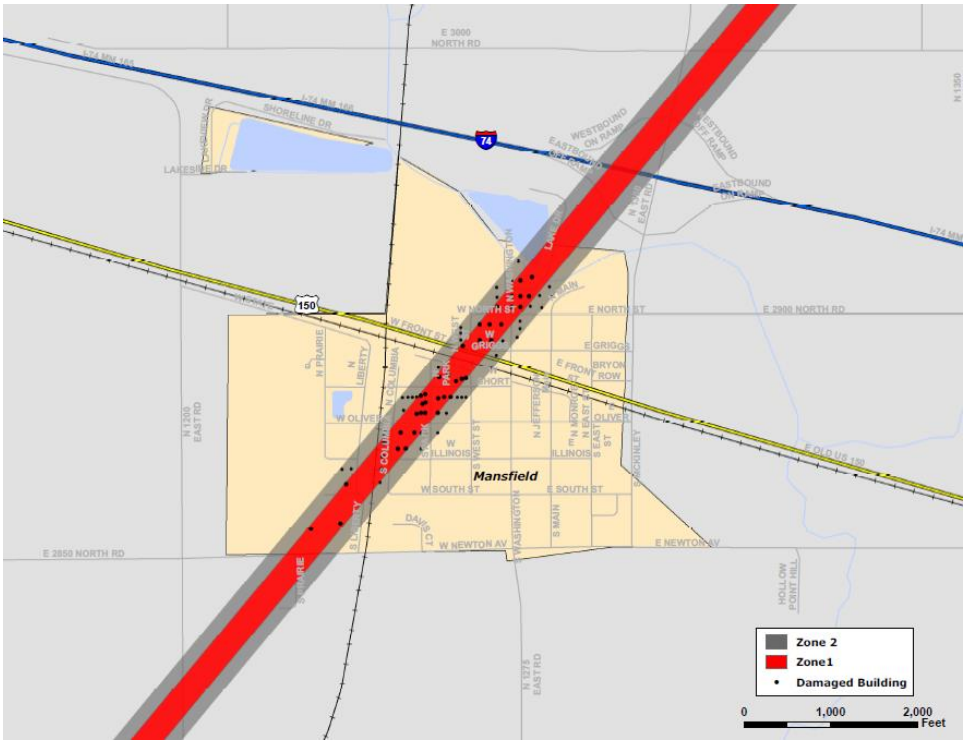


Figure 4-5: Modeled EF2 Tornado Damage Buffers in Cisco, Piatt County

The results of this analysis are depicted in Tables 4-11 and 4-12. The GIS analysis estimates that 128 buildings will be damaged. The estimated building losses were approximately $1 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Piatt County that were joined with Assessor records showing property improvement.

The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Table 4-11: Estimated Numbers of Buildings Damaged by Occupancy Type

Occupancy	Zone 1	Zone 2
Residential	63	48
Commercial	3	9
Industrial	0	0
Agriculture	0	0
Religious	0	0
Government	4	1
Education	0	0
Total	**70**	**58**

Table 4-12: Estimated Building Losses by Occupancy Type (X 1000)

Occupancy	Zone 1	Zone 2
Residential	$803	$114
Commercial	$130	$20
Industrial	$0	$0
Agriculture	$0	$0
Religious	$0	$0
Government	$0	$0
Education	$0	$0
Total	**$933**	**$134**

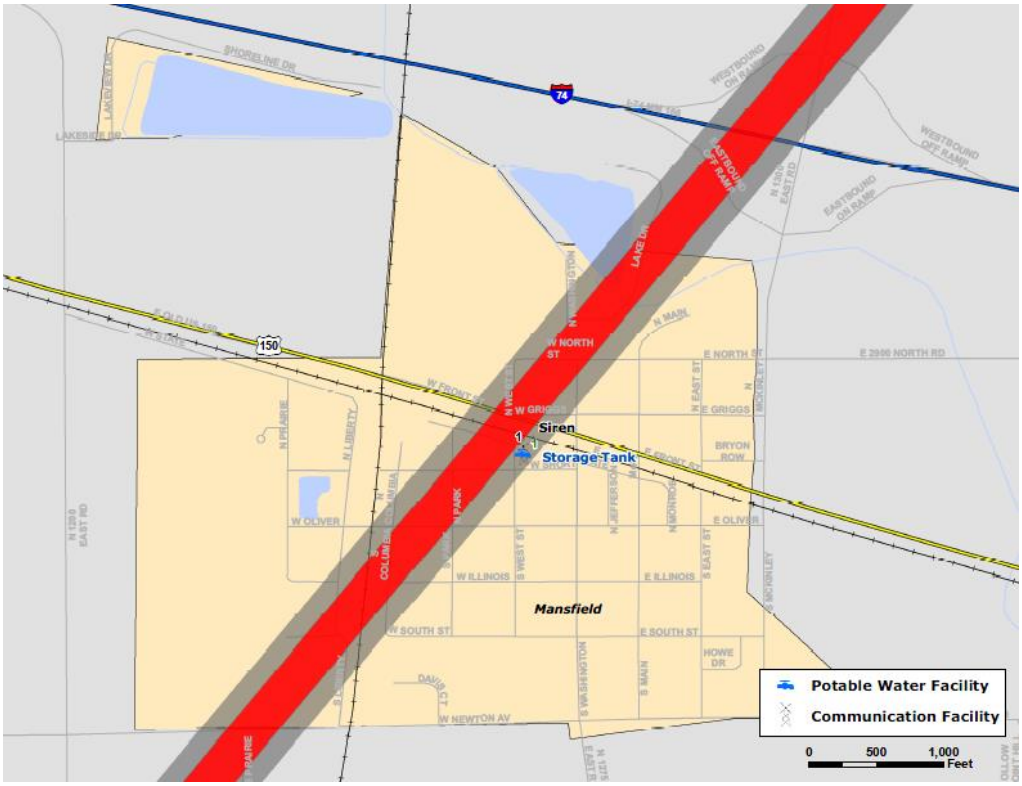
At-Risk Facility Damage

There are two critical facilities located within 300 feet of the hypothetical tornado path. The model predicts that one potable water facility and one communication facility would experience damage. The affected facilities are identified in Table 4-13, and Figure 4-6 shows the geographic location of some facilities.

Table 4-13: Estimated Critical Facilities Affected

Name
Mansfield Storage Tank
Mansfield Siren

Figure 4-6: Critical Facilities within Tornado Path

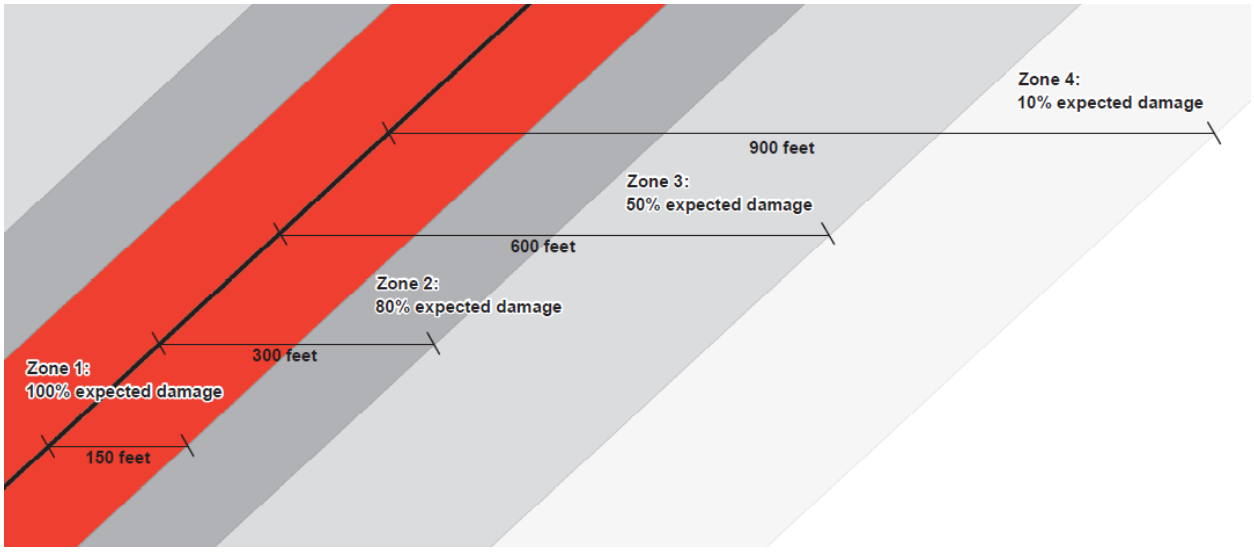


Hazus-MH Tornado Analysis – *Scenario #2*

For the second tornado scenario, the analysis used a hypothetical path based upon an EF4 tornado event that ran for 17.4 miles through Cerro Gordo and Monticello. The selected widths were again modeled after a recreation of the Enhanced Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these six categories.

Figure 4-7 and Table 4-14 describe the zone analysis and damage curves for this EF4 scenario.

Figure 4-7: EF4 Tornado Analysis Using GIS Buffers



An EF4 tornado has four damage zones, depicted in Table 4-14. Total devastation is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will experience 10% damage.

Table 4-14: EF4 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	100%
2	150-300	80%
3	300-600	50%
4	600-900	10%

The selected hypothetical tornado path is depicted in Figure 4-8, the specific damage curve buffers are shown in Figure 4-9.

Figure 4-8: Hypothetical EF4 Tornado Path in Piatt County

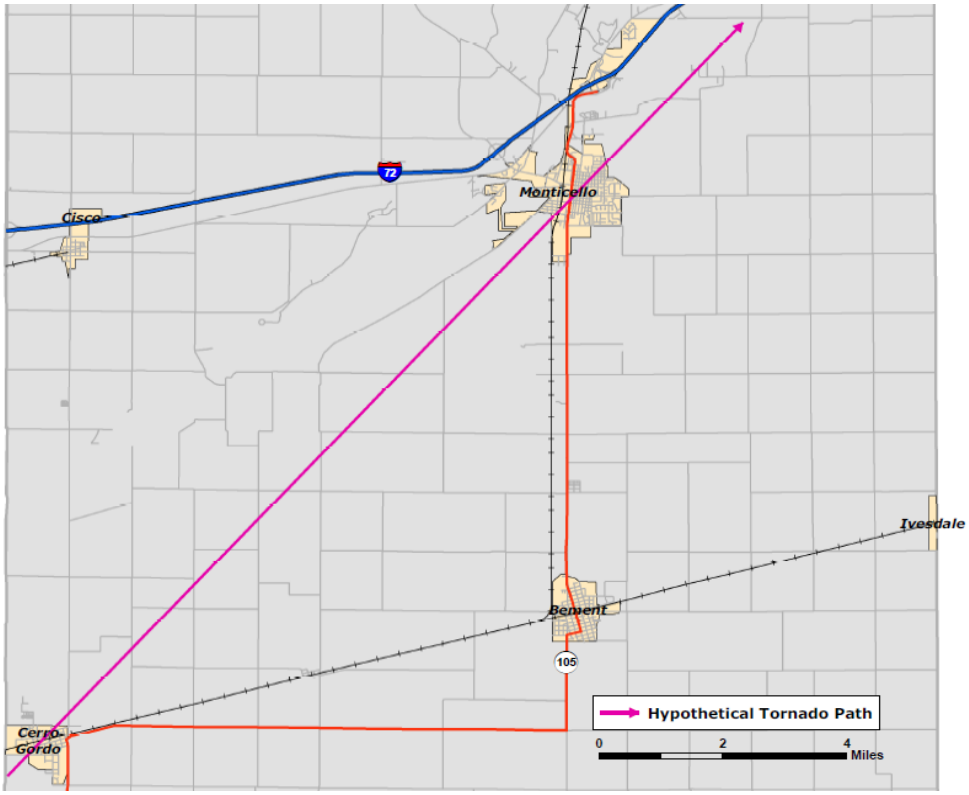
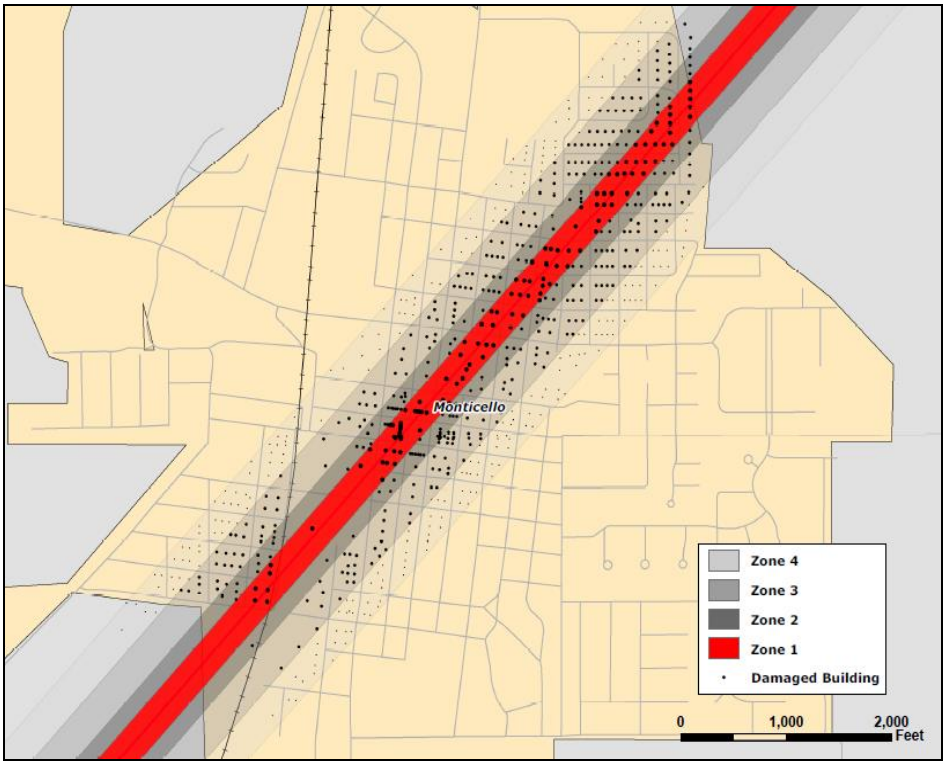


Figure 4-9: Modeled EF4 Tornado Damage Buffers in Piatt County



The results of the analysis are depicted in Tables 4-15 and 4-16. The GIS analysis estimates that 1,022 buildings will be damaged. The estimated building losses were $16.1 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Piatt County that were joined with Assessor records showing property improvement.

The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Table 4-15: Estimated Numbers of Buildings Damaged by Occupancy Type

Occupancy	Zone 1	Zone 2	Zone 3	Zone 4
Residential	119	116	281	303
Commercial	32	43	33	15
Industrial	0	0	1	2
Agriculture	4	0	2	0
Religious	0	0	0	0
Government	18	19	20	14
Education	0	0	0	0
Total	**173**	**178**	**337**	**334**

Table 4-16: Estimated Building Losses by Occupancy Type (X 1000)

Occupancy	Zone 1	Zone 2	Zone 3	Zone 4
Residential	$3,235	$2,728	$3,980	$948
Commercial	$2,121	$1,677	$1,022	$76
Industrial	$0	$0	$20	$64
Agriculture	$191	$0	$26	$0
Religious	$0	$0	$0	$0
Government	$0	$0	$0	$0
Education	$0	$0	$0	$0
Total	**$5,547**	**$4,404**	**$5,047**	**$1,088**

At-Risk Facility Damage

There are ten essential facilities located within 900 feet of the hypothetical tornado path. The model predicts that three schools, two fire stations, and five police stations would experience damage. The affected facilities are identified in Table 4-17, and Figure 4-10 shows the geographic location of some facilities.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

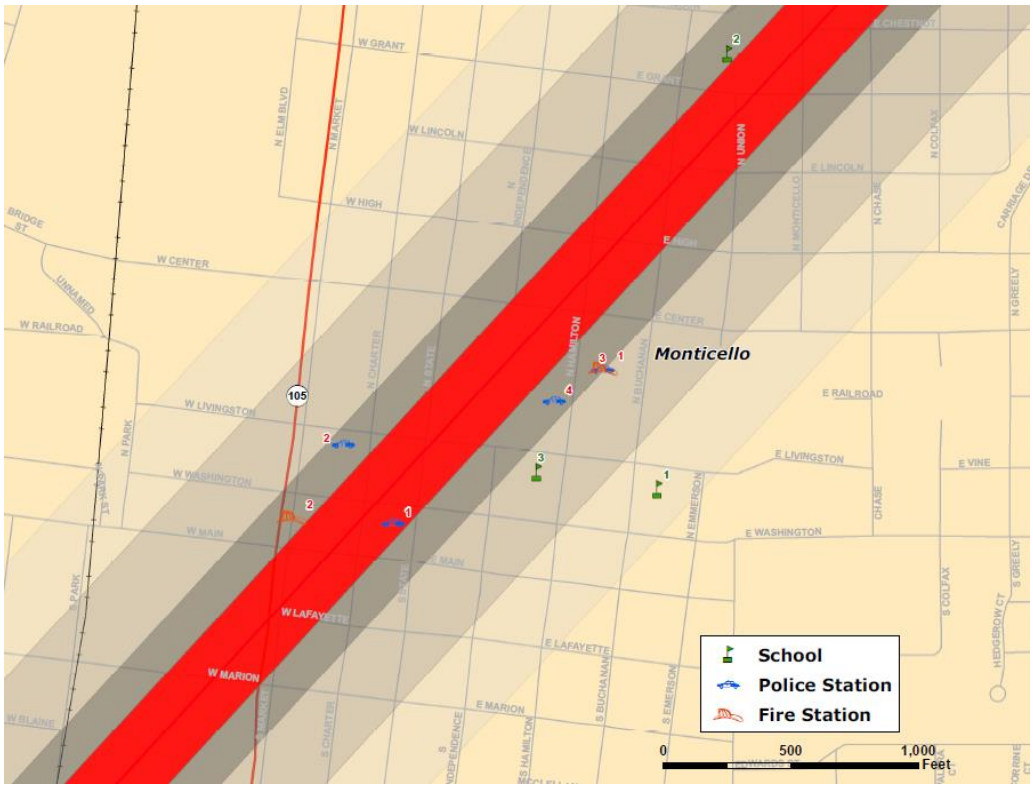
Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Table 4-17: Estimated Essential Facilities Affected

Name
Faith Christian School
Lincoln Elementary School
Monticello Christian Academy
Monticello Fire and Rescue
Mid- Piatt Fire Protection District
Piatt County Sheriff Office #1
Piatt County Sheriff Office #2
Monticello City Police Station
Monticello Chief of Police
Cerro Gordo Police

Figure 4-10: Essential Facilities within Tornado Path

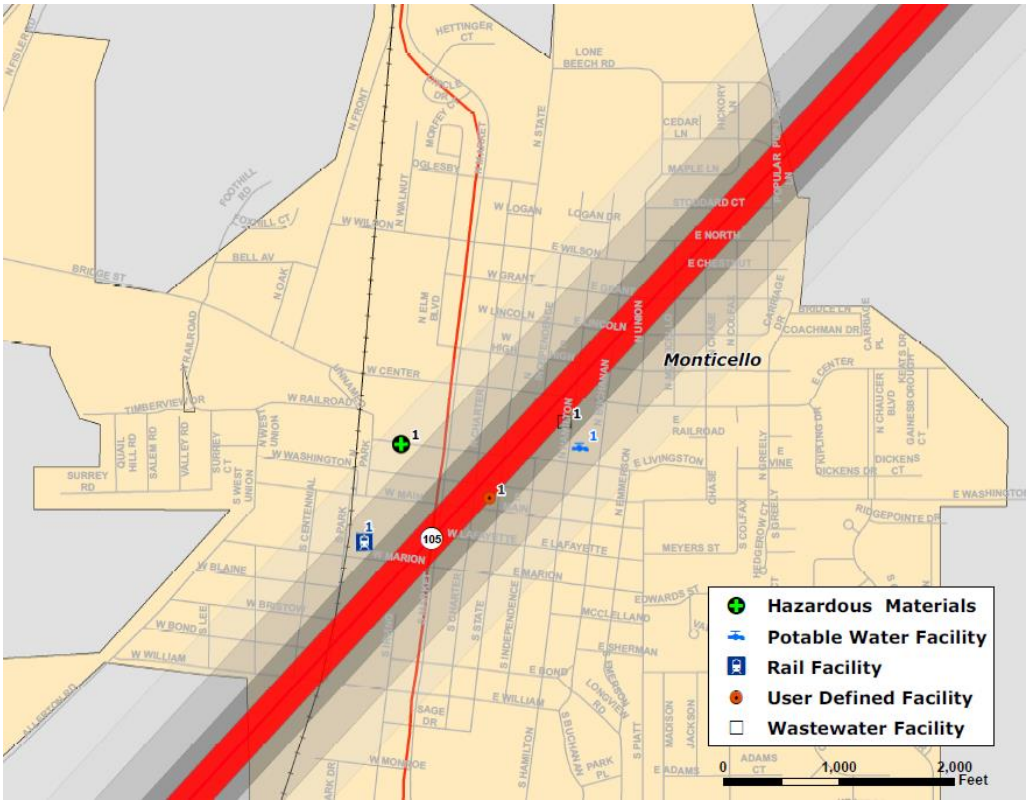


There are seven critical facilities located within 900 feet of the hypothetical tornado path. The model predicts two bridges, one hazardous material facility, one potable water facility, one rail facility, one user defined facility, and one wastewater facility would experience damage. The affected facilities are identified in Table 4-18, and Figure 4-11 shows the geographic location of some facilities.

Table 4-18: Estimated Critical Facilities and Community Assets Affected

Name
TR 129 (Bridge)
FAS 541 (TR 32 A) (Bridge)
VIOBIN USA Monticello (Hazardous Material)
Water Tower, Monticello
Rail Facility, Monticello
Monticello Courthouse (Community Asset)
Monticello Wastewater

Figure 4-11: Critical Facilities and Community Assets within Tornado Path



Vulnerability to Future Assets/Infrastructure for Tornado Hazard

The entire population and buildings have been identified as at risk because tornadoes can occur anywhere within the state, at any time of the day, and during any month of the year. Furthermore, any future development in terms of new construction within the county will be at risk. The building exposure for Piatt County is included in Table 4-6.

All essential and critical facilities and community assets in the county and communities within the county are at risk. A list of the facilities of Piatt County is included in Appendix E.

Analysis of Community Development Trends

Preparing for severe storms will be enhanced if officials sponsor a wide range of programs and initiatives to address the overall safety of county residents. New structures need to be built with more sturdy construction, and those structures already in place need to be hardened to lessen the potential impacts of severe weather. Community warning sirens to provide warnings of approaching storms are also vital to preventing the loss of property and ensuring the safety of Piatt County residents.

4.4.2 Flood Hazard

Hazard Definition for Flooding

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of two types: upstream floods or downstream floods. Both types of floods are common in Illinois.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at anytime of the year in Illinois, but they are most common in the spring and summer months.

Downstream floods, sometimes called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage. Riverine flooding on the large rivers of Illinois generally occurs during either the spring or summer.

Hazard Definition for Dam and Levee Failure

Dams are structures that retain or detain water behind a large barrier. When full, or partially full, the difference in elevation between the water above the dam and below creates large amounts of potential energy, creating the potential for failure. The same potential exists for levees when they serve their purpose, which is to confine flood waters within the channel area of a river and

exclude that water from land or communities land-ward of the levee. Dams and levees can fail due to either 1) water heights or flows above the capacity for which the structure was designed; or 2) deficiencies in the structure such that it cannot hold back the potential energy of the water. If a dam or levee fail, issues of primary concern include loss of human life/injury, downstream property damage, lifeline disruption (of concern would be transportation routes and utility lines required to maintain or protect life), and environmental damage.

Many communities view both dams and levees as permanent and infinitely safe structures. This sense of security may well be false, leading to significantly increased risks. Both downstream of dams and on floodplains protected by levees, security leads to new construction, added infrastructure, and increased population over time. Levees in particular are built to hold back flood waters only up to some maximum level, often the 100-year (1% annual probability) flood event. When that maximum is exceeded by more than the design safety margin, the levee will be overtopped or otherwise fail, inundating communities in the land previously protected by that levee. It has been suggested that climate change, land-use shifts, and some forms of river engineering may be increasing the magnitude of large floods and the frequency of levee failure situations.

In addition to failure that results from extreme floods above the design capacity, levees and dams can fail due to structural deficiencies. Both dams and levees require constant monitoring and regular maintenance to assure their integrity. Many structures across the U.S. have been under-funded or otherwise neglected, leading to an eventual day of reckoning in the form either of realization that the structure is unsafe or, sometimes, an actual failure. The threat of dam or levee failure may require substantial commitment of time, personnel, and resources. Since dams and levees deteriorate with age, minor issues become larger compounding problems, and the risk of failure increases.

Previous Occurrences for Flooding

The NCDC database reported 18 flood events in Piatt County since 1961. These flood events have been attributed to several deaths and injuries. For example, in May of 1996, a slow moving storm dropped nearly five inches of rain in a short period of time, causing residential damage in the communities of Bement, Atwood, and La Place. The elementary school in Atwood also sustained flood damage from this storm.

Source: Piatt County Journal

Piatt County NCDC recorded floods are identified in Table 4-19. Additional details for NCDC events are included in Appendix C.

Table 4-19: Piatt County Previous Occurrences of Flooding*

Location or County	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
Piatt	4/11/1994	Flash Flood	0	0	10K	0
Piatt	4/12/1994	Flash Flood	2	0	50.0M	0
Piatt	5/14/1995	Flooding	0	0	50.0M	0
Piatt	5/20/1995	Flood	0	0	0	0
Piatt	6/1/1995	Flood	1	0	0	0
La Place	5/8/1996	Flood	0	0	0	0
Piatt	5/12/2002	Flash Flood	0	0	0	0
Piatt	5/12/2002	Flood	0	1	0	0
Piatt	8/22/2002	Flash Flood	0	0	0	0
Piatt	6/11/2003	Flash Flood	0	0	0	0
Piatt	7/9/2003	Flash Flood	0	0	0	0
Deland	7/26/2006	Flash Flood	0	0	0	0
Piatt	7/27/2006	Flash Flood	0	0	0	0
Monticello	2/6/2008	Flash Flood	0	0	0	0
La Place	7/7/2008	Flash Flood	0	0	0	0
Cisco	5/14/2009	Flash Flood	0	0	0	0
Deland	5/15/2009	Flash Flood	0	0	0	0
Cerro Gordo	7/24/2010	Flash Flood	0	0	10K	0

** NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.*

Previous Occurrences for Dam and Levee Failure

According to the Piatt County Multi-Hazard Mitigation Planning Team Members, there are no records or local knowledge of any dam or certified levee failure in the county. The team also determined the risk of dam and levee failure was negligible so no risk analysis was completed.

Repetitive Loss Properties

FEMA defines a repetitive loss structure as a structure covered by a contract of flood insurance issued under the NFIP, which has suffered flood loss damage on two occasions during a 10-year period that ends on the date of the second loss, in which the cost to repair the flood damage is 25% of the market value of the structure at the time of each flood loss.

The Illinois Emergency Management Agency (IEMA) was contacted to determine the location of repetitive loss structures. IEMA reports no repetitive loss properties for Piatt County.

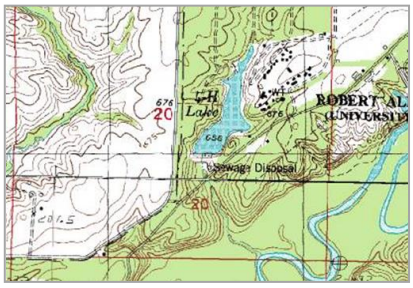
Geographic Location for Flooding

Most river flooding occurs in early spring and is the result of excessive rainfall and/or the combination of rainfall and snowmelt. Severe thunderstorms may cause flooding during the summer or fall, but tend to be localized. The primary source of river flooding is the Sangamon River and its tributaries.

Flash floods, brief heavy flows in small streams or normally dry creek beds, also occur within the county. Flash flooding is typically characterized by high-velocity water, often carrying large amounts of debris. Urban flooding involves the overflow of storm drain systems and is typically the result of inadequate drainage following heavy rainfall or rapid snowmelt.

A digital file of the FIRM maps was used to identify specific stream reaches for analysis.

Geographic Location for Dam and Levee Failure



According to the NID, approximately one-third of the dams in the United States pose a high or significant hazard to life and property if failure occurs. The National Inventory of Dams identified one dam in Piatt County: the 4-H Memorial Lake Dam on the Sangamon River, which is a low hazard dam.

A review of the United States Army Corps of Engineers and IDNR records, along with input from team members, revealed no levees within Piatt County.

Hazard Extent for Flooding

The Hazus-MH flood model is designed to generate a flood depth grid and flood boundary polygon by deriving hydrologic and hydraulic information based on user-provided elevation data or by incorporating selected output from other flood models. Hazus-MH also has the ability to clip a Digital Elevation Model (DEM) with a user-provided flood boundary, thus creating a flood depth grid. For Piatt County, Hazus-MH was used to extract flood depth by clipping the DEM with the IDNR FIRMs Base Flood Elevation (BFE) boundary. The BFE is defined as the area that has a 1% chance of flooding in any given year.

Flood hazard scenarios were modeled using GIS analysis and Hazus-MH. The flood hazard modeling was based on historical occurrences and current threats. Existing IDNR flood maps were used to identify the areas of study. These digital files, although not official FIRMs, provided the boundary which was the basis for this analysis. Planning team input and a review of historical information provided additional information on specific flood events.

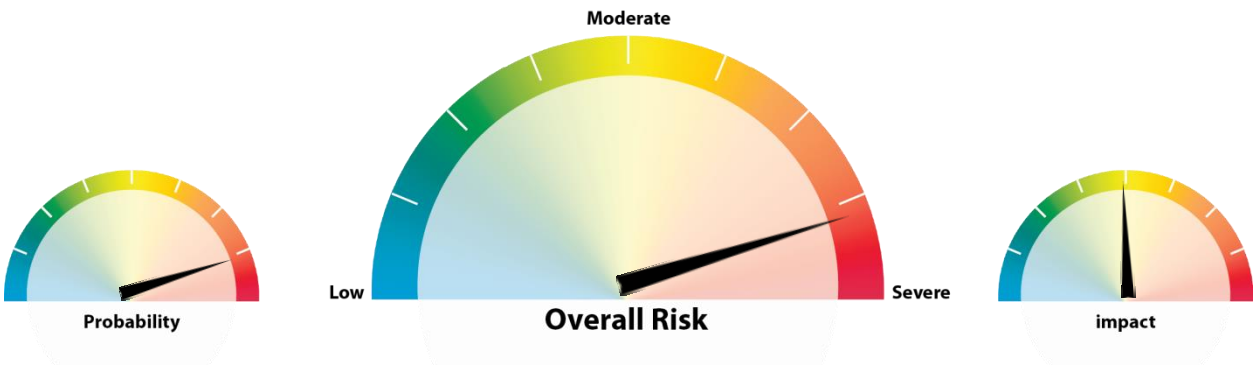
Hazard Extent for Dam and Levee Failure

When dams are assigned the low (L) hazard potential classification, it means that failure or incorrect operation of the dam will result in no human life losses and no economic or environmental losses. Losses are principally limited to the owner's property. Dams assigned the significant (S) hazard classification are those dams in which failure or incorrect operation results in no probable loss of human life; however it can cause economic loss, environment damage, and disruption of lifeline facilities. Dams classified as significant hazard potential dams are often located in predominantly rural or agricultural areas, but could be located in populated areas with a significant amount of infrastructure. Dams assigned the high (H) hazard potential classification are those dams in which failure or incorrect operation has the highest risk to cause loss of human life and significant damage to buildings and infrastructure.

According to IDNR, the National Inventory of Dams, and local knowledge, no dams are classified as high hazard and none have an Emergency Action Plan (EAP). An EAP is not required by the State of Illinois but is strongly recommended by the Illinois Department of Natural Resources.

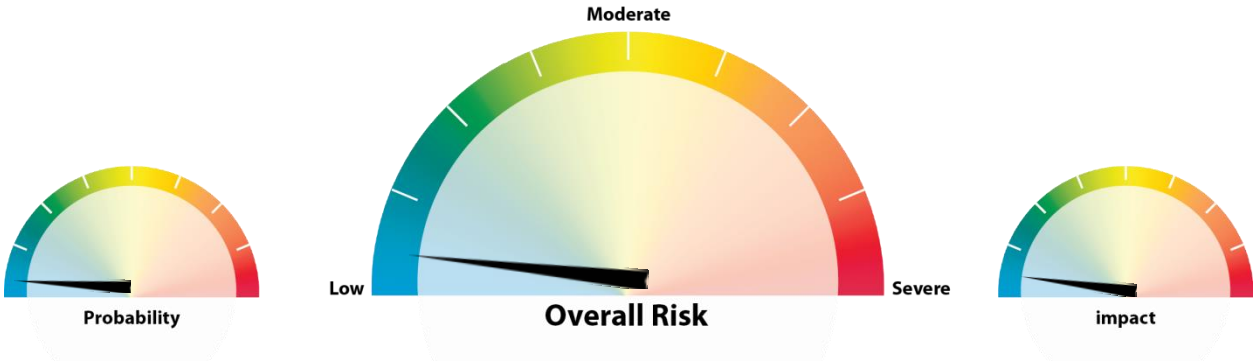
Accurate mapping of the risks of flooding behind levees depends on knowing the condition and level of protection the levees actually provide. FEMA and the U.S. Army Corps of Engineers are working together to make sure that flood hazard maps clearly reflect the flood protection capabilities of levees, and that the maps accurately represent the flood risks posed to areas situated behind them. Levee owners—usually states, communities, or in some cases private individuals or organizations—are responsible for ensuring that the levees they own are maintained according to their design. In order to be considered creditable flood protection structures on FEMA's flood maps, levee owners must provide documentation to prove the levee meets design, operation, and maintenance standards for protection against the one-percent-annual chance flood.

Risk Identification for Flood Hazard



Based on historical information, the probability of a flood is high. In Meeting #2, the planning team determined that the potential impact of a flood is moderate; therefore, the overall risk of a flood hazard for Piatt County is severe.

Risk Identification for Dam/Levee Failure



Based on historical information, the probability of dam/levee failure is low. In Meeting #2, the planning team determined that the potential impact of dam/levee failure is minimal; therefore, the overall risk of dam/levee failure for Piatt County is low. Since the planning team determined the risk of dam and levee failure was negligible, no risk analysis was required.

Hazus-MH Analysis Using 100-Year Flood Boundary and County Parcels

Hazus-MH generated the flood depth grid for a 100-year return period by clipping the IGS 1/3 ArcSecond (approximately 10 meters) Digital Elevation Model (DEM) to the Piatt County flood boundary. Next, Hazus-MH utilized a user-defined analysis of Piatt County with site-specific parcel data provided by the county.

Hazus-MH estimates the 100-year flood would damage 205 buildings at a replacement cost of over $2.9 million. The total estimated numbers of damaged buildings are given in Table 4-20. Figure 4-12 depicts the Piatt County parcel points that fall within the 100-year floodplain. Figure 4-13 highlights damaged buildings within the100-year floodplain areas of Monticello.

Table 4-20: Piatt County Hazus-MH Building Damage

General Occupancy	Number of Buildings Damaged	Total Building Damage (x1000)
Residential	115	2,592
Commercial	1	2
Industrial	0	0
Agricultural	39	405
Religious	0	0
Government	50	0
Education	0	0
Total	**205**	**2,999**

Figure 4-12: Piatt County Buildings in Floodplain (100-Year Flood)

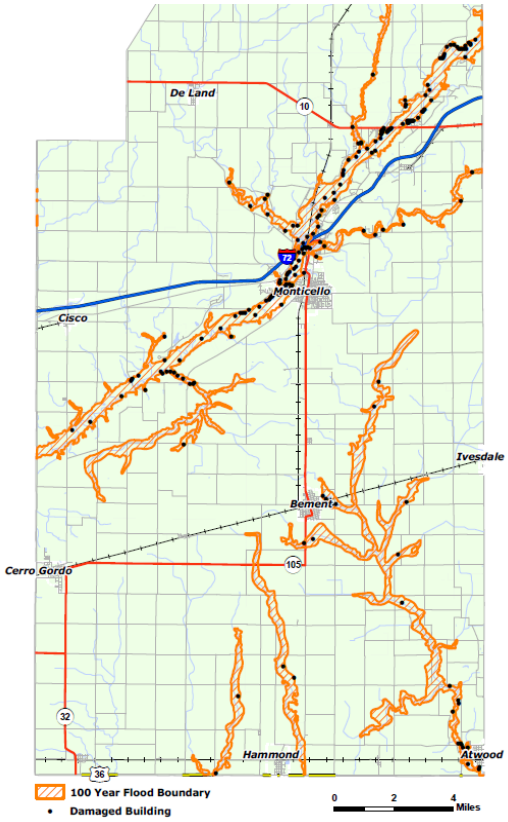
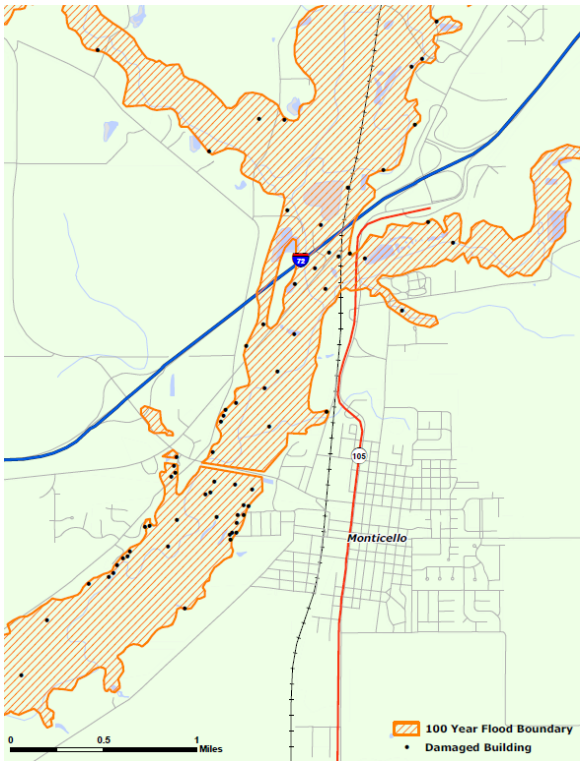


Figure 4-13: Monticello Flood-Prone Areas (100-Year Flood)



At-Risk Facilities

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Essential and critical facilities and community assets will encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). A complete list of all the critical facilities is included in Appendix E.

The analysis identified one airport facility, two wastewater facilities, and one community asset that may be subject to flooding. A list of the critical facilities potentially at risk to flooding within Piatt County is given in Table 4-21. A map of critical facilities potentially at risk to flooding is shown in Figures 4-14 and 4-15.

Table 4-21: Piatt County Damaged Critical Facilities

Facility Type	Facility Name
Critical Facility	Triple Creek Airport, Bement
Critical Facility	Atwood STP, Atwood
Critical Facility	Bement STP, Bement
Community Asset	Robert Alerton Park, Monticello

Figure 4-14: Boundary of 100-Year Flood Overlaid with Critical Facilities

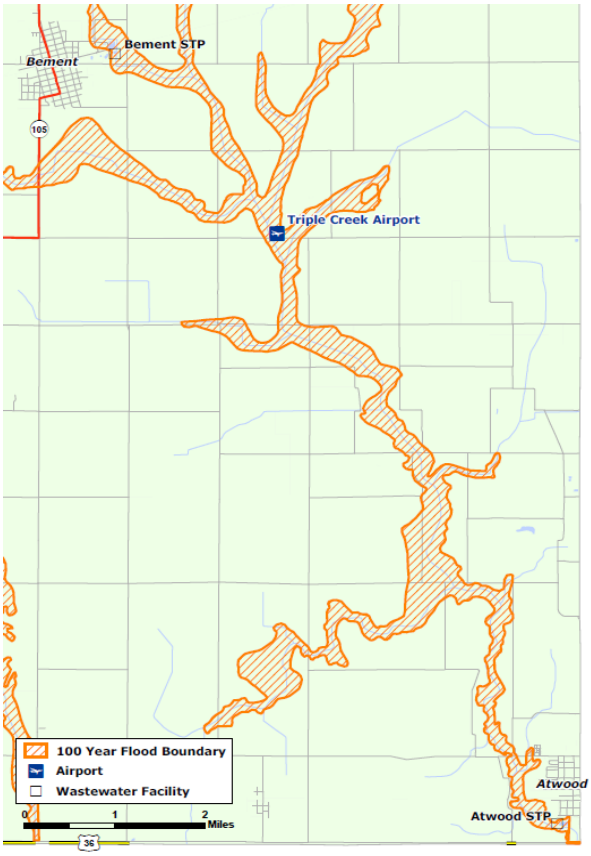
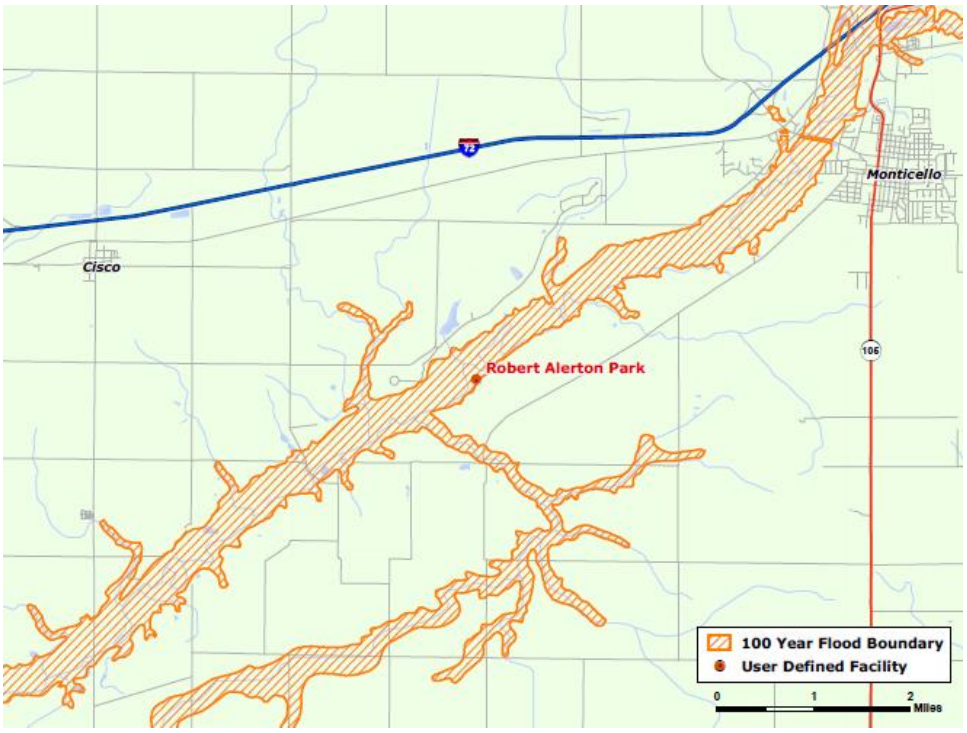


Figure 4-15: Boundary of 100-Year Flood Overlaid with Critical Facilities



Infrastructure

The types of infrastructure that could be impacted by a flood include roadways, utility lines/pipes, railroads, and bridges. Since an extensive inventory of the infrastructure is not available for this plan, it is important to emphasize that any number of these items could become damaged in the event of a flood. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); or railway failure from broken or impassable railways. Bridges could also fail or become impassable, causing traffic risks.

Vulnerability Analysis for Flash Flooding

Flash flooding could affect any location within this jurisdiction; therefore, the entire county's population and buildings are vulnerable to a flash flood. These structures can expect the same impacts as discussed in a riverine flood. Critical facility information, including location, is included in Appendix E.

Vulnerability Analysis for Dam and Levee Failure

An EAP is required to assess the effect of dam failure on these communities. In order to be considered creditable flood protection structures on FEMA's flood maps, levee owners must provide documentation to prove the levee meets design, operation, and maintenance standards for protection against the "one-percent-annual chance" flood.

Vulnerability to Future Assets/Infrastructure for Flooding

Flash flooding may affect nearly every location within the county; therefore all buildings and infrastructure are vulnerable to flash flooding. Currently, the Piatt County Zoning Approval Board reviews new development for compliance with the local zoning ordinance. At this time no construction is planned within the area of the 100-year floodplain. Therefore, there is no new construction which will be vulnerable to a 100-year flood.

Vulnerability to Future Assets/Infrastructure for Dam and Levee Failure

The Piatt County Zoning Approval Board reviews new development for compliance with the local zoning ordinance.

Analysis of Community Development Trends

Controlling floodplain development is the key to reducing flood-related damages. Areas with recent development within the county may be more vulnerable to drainage issues. Storm drains and sewer systems are usually most susceptible. Damage to these can cause the back up of water, sewage, and debris into homes and basements, causing structural and mechanical damage as well as creating public health hazards and unsanitary conditions.

4.4.3 Earthquake Hazard

Hazard Definition for Earthquake Hazard

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. For hundreds of millions of years, the forces of plate tectonics have shaped Earth as the huge plates that form the earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free causing the ground to shake.

Most earthquakes occur at the boundaries where the plates meet; however, some earthquakes occur in the middle of plates, as is the case for seismic zones in the Midwestern United States. The most seismically active area in the Midwest is the New Madrid Seismic Zone. Scientists have learned that the New Madrid fault system may not be the only fault system in the Central U.S. capable of producing damaging earthquakes. The Wabash Valley fault system in Illinois and Indiana shows evidence of large earthquakes in its geologic history, and there may be other, as yet unidentified, faults that could produce strong earthquakes.

Ground shaking from strong earthquakes can collapse buildings and bridges; disrupt gas, electric, and phone service; and sometimes trigger landslides, avalanches, flash floods, fires, and huge destructive ocean waves (tsunamis). Buildings with foundations resting on unconsolidated landfill and other unstable soil and trailers and homes not tied to their foundations are at risk because they can be shaken off their mountings during an earthquake. When an earthquake occurs in a populated area it may cause deaths, injuries, and extensive property damage.

The possibility of the occurrence of a catastrophic earthquake in the central and eastern United States is real as evidenced by history and described throughout this section. The impacts of significant earthquakes affect large areas, terminating public services and systems needed to aid the suffering and displaced. These impaired systems are interrelated in the hardest struck zones. Power lines, water and sanitary lines, and public communication may be lost; and highways, railways, rivers, and ports may not allow transportation to the affected region. Furthermore, essential facilities, such as fire and police departments and hospitals, may be disrupted if not previously improved to resist earthquakes.

As with hurricanes, mass relocation may be necessary, but the residents who are suffering from the earthquake can neither leave the heavily impacted areas nor receive aid or even communication in the aftermath of a significant event.

Magnitude, which is determined from measurements on seismographs, measures the energy released at the source of the earthquake. Intensity measures the strength of shaking produced by the earthquake at a certain location and is determined from effects on people, human structures, and the natural environment. Tables 4-22 and 4-23 list the earthquake magnitudes and their corresponding intensities.
Source: http://earthquake.usgs.gov/learning/topics/mag_vs_int.php

Table 4-22: Abbreviated Modified Mercalli Intensity Scale

Mercalli Intensity	Description
I	Not felt except by a very few under especially favorable conditions.
II	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Table 4-23: Earthquake Magnitude vs. Modified Mercalli Intensity Scale

Earthquake Magnitude	Typical Maximum Modified Mercalli Intensity
1.0 - 3.0	I
3.0 - 3.9	II - III
4.0 - 4.9	IV - V
5.0 - 5.9	VI - VII
6.0 - 6.9	VII - IX
7.0 and higher	VIII or higher

Previous Occurrences for Earthquake Hazard

Numerous instrumentally measured earthquakes have occurred in Illinois. In the past few decades, with many precise seismographs positioned across Illinois, measured earthquakes have varied in magnitude from very low microseismic events of M=1−3 to larger events up to M=5.4. Microseismic events are usually only detectable by seismographs and rarely felt by anyone. The most recent earthquake in Illinois—as of the date of this report—occurred on August 30, 2008 at 0:46:00 local time about 2.4 km (1.5 miles) southeast of Gale, IL and measured 2.6 in magnitude.

The consensus of opinion among seismologists working in the Midwest is that a magnitude 5.0 to 5.5 event could occur virtually anywhere at any time throughout the region. Earthquakes occur in Illinois all the time, although damaging quakes are very infrequent. Illinois earthquakes causing minor damage occur on average every 20 years, although the actual timing is extremely variable. Most recently, a magnitude 5.2 earthquake shook southeastern Illinois on April 18, 2008, causing minor damage in the Mt Carmel, IL area. Earthquakes resulting in more serious damage have occurred about every 70 to 90 years.

First on the list of historical earthquakes that have affected Illinois and first on the list on continuing earthquake threats at present and into the future is seismic activity on the New Madrid Seismic Zone of southeastern Missouri. On December 16, 1811 and January 23 and February 7 of 1812, three earthquakes struck the central U.S. with magnitudes estimated to be 7.5-8.0. These earthquakes caused violent ground cracking and volcano-like eruptions of sediment *(sand blows)* over an area of >10,500 km^2, and uplift of a 50 km by 23 km zone (the Lake County uplift). The shaking collapsed scaffolding on the Capitol in Washington, D.C., and was felt over a total area of over 10 million km^2 (the largest felt area of any historical earthquake). Of all the historical earthquakes that have struck the U.S., an 1811-style event would do the most damage if it recurred today.

The New Madrid earthquakes are especially noteworthy because the seismic zone is in the center of the North American Plate. Such intraplate earthquakes are felt, and do damage, over much broader areas than comparable earthquakes at plate boundaries. The precise driving force responsible for activity on the New Madrid seismic zone is not known, but most scientists infer that it is compression transmitted across the North American Plate. Compression is focused on the New Madrid zone because it is the site of a Paleozoic structure—the Reelfoot Rift—which is a zone of weakness in the crust of the earth.

The United States Geological Survey (USGS) and the Center for Earthquake Research and Information (CERI) at the University of Memphis estimate the probability of a repeat of the 1811–1812 type earthquakes (magnitude 7.5–8.0) is 7%–10% over the next 50 years (*USGS Fact Sheet 2006-3125*.) Frequent large earthquakes on the New Madrid seismic zone are geologically puzzling because the region shows relatively little deformation. Three explanations have been proposed: 1) recent seismological and geodetic activity is still a short-term response to the 1811–12 earthquakes; 2) activity is irregular or cyclic; or 3) activity began only in the recent geologic past. There is some dispute over how often earthquakes like the 1811–12 sequence occur. Many researchers estimate a recurrence interval of between 550 and 1100 years; other researchers suggest that either the magnitude of the 1811–12 earthquakes have been over-stated, or else the actual frequency of these events is less. It is fair to say, however, that even if the 1811–12 shocks were just magnitude ~7 events, they nonetheless caused widespread damage and would do the same if another such earthquake or earthquake sequence were to strike today.

[Above: New Madrid earthquakes and seismic zone modified from N. Pinter, 1993, Exercises in Active Tectonic history adapted from *Earthquake Information Bulletin*, 4(3), May-June 1972. *http://earthquake.usgs.gov/regional/states/illinois/history.php*]

The earliest reported earthquake in Illinois was in **1795**. This event was felt at Kaskaskia, IL for a minute and a half and was also felt in Kentucky. At Kaskaskia, subterranean noises were heard. Due to the sparse frontier population, an accurate location is not possible, and the shock may have actually originated outside the state.

An intensity VI-VII earthquake occurred on **April 12, 1883**, awakening several people in Cairo, IL. One old frame house was significantly damaged, resulting in minor injuries to the inhabitants. This is the only record of injury in the state due to earthquakes.

On **October 31, 1895** a large M6.8 occurred at Charleston, Missouri, just south of Cairo. Strong shaking caused eruptions of sand and water at many places along a line roughly 30 km (20 mi) long. Damage occurred in six states, but most severely at Charleston, with cracked walls, windows shattered, broken plaster, and chimneys fallen. Shaking was felt in 23 states from Washington, D.C. to Kansas and from southernmost Canada to New Orleans, LA.

A Missouri earthquake on **November 4, 1905**, cracked walls in Cairo. Aftershocks were felt over an area of 100,000 square miles in nine states. In Illinois, it cracked the wall of the new education building in Cairo and a wall at Carbondale, IL.

Among the largest earthquakes occurring in Illinois was the **May 26, 1909** shock, which knocked over many chimneys at Aurora. It was felt over 500,000 square miles and strongly felt in Iowa and Wisconsin. Buildings swayed in Chicago where there was fear that the walls would collapse. Just under two months later, a second Intensity VII earthquake occurred on **July 18, 1909**, damaged chimneys in Petersburg, IL, Hannibal, MO, and Davenport, IA. Over twenty windows were broken, bricks loosened and plaster cracked in the Petersburg area. This event was felt over 40,000 square miles.

On **November 7, 1958**, a shock along the Indiana border resulted in damage at Bartelso, Dale and Maunie, IL. Plaster cracked and fell, and a basement wall and floor were cracked.

On **August 14, 1965**, a sharp but local shock occurred at Tamms, IL, a town of about 600 people. The magnitude 5 quake damaged chimneys, cracked walls, knocked groceries from the shelves, and muddied the water supply. Thunderous earth noises were heard. This earthquake was only felt within a 10 mile radius of Tamms, in communities such as Elco, Unity, Olive Branch, and Olmsted, IL. Six aftershocks were felt.

An earthquake of Intensity VII occurred on **November 9, 1968**. This magnitude 5.3 shock was felt over an area of 580,000 square miles in 23 states. There were reports of people in tall buildings in Ontario and Boston feeling the shock. Damage consisted of bricks being knocked from chimneys, broken windows, toppled television antenna, and cracked plaster. There were scattered reports of cracked foundations, fallen parapets, and overturned tombstones. Chimney damage was limited to buildings 30 to 50 years old. Many people were frightened. Church bells rang at Broughton and several other towns. Loud rumbling earthquake noise was reported in many communities.

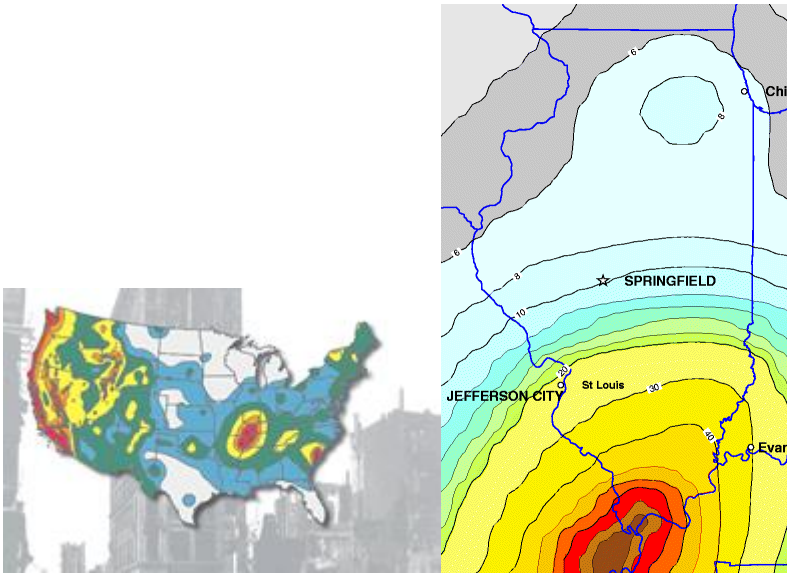
Dozens of other shocks originating in Missouri, Arkansas, Kansas, Nebraska, Tennessee, Indiana, Ohio, Michigan, Kentucky, and Canada have been felt in Illinois without causing damage. There have been three earthquakes slightly greater than magnitude 5.0 and Intensity level VII which occurred in 1968, 1987 and 2008 and that were widely felt throughout southern Illinois and the midcontinent.

Source: http://earthquake.usgs.gov/regional/states/illinois/history.php and from Seismicity of the United States, 1568-1989 (Revised), C.W. Stover and J.L. Coffman, U.S. Geological Survey Professional Paper 1527, United States Government Printing Office, Washington: 1993.

Geographic Location for Earthquake Hazard

Piatt County occupies a region susceptible to earthquakes. Regionally, the two most significant zones of seismic activity are the New Madrid Seismic Zone and the Wabash Valley Fault System. The epicenter of an earthquake has never been recorded in Piatt County. Figure 4-15, provided by the US Geological Center, depicts historical earthquakes within the US and specifically the state of Illinois.

Figure 4-15: US and Illinois Historical Earthquakes

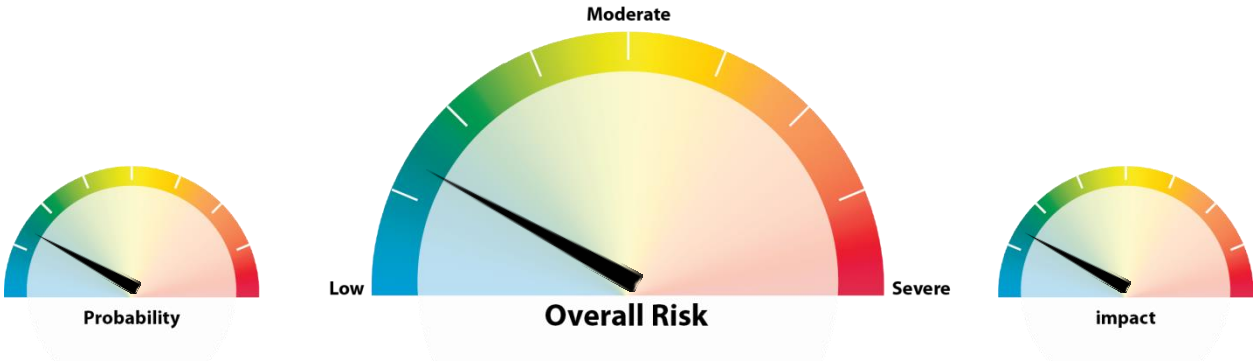


Source: US Geological Center

Hazard Extent for Earthquake Hazard

The extent of the earthquake is countywide. One of the most critical sources of information that is required for accurate assessment of earthquake risk is soils data. A National Earthquake Hazards Reduction Program (NEHRP) compliant soils map was used for the analysis which was provided by ISGS. The map identifies the soils most susceptible to failure.

Risk Identification for Earthquake Hazard



Based on historical information, the probability of an earthquake is low; however, USGS research and studies attest that future earthquakes in Piatt County are possible. In Meeting #2, the planning team determined that the potential impact of an earthquake is minimal; therefore, the overall risk of an earthquake hazard for Piatt County is low.

Vulnerability Analysis for Earthquake Hazard

This hazard could impact the entire jurisdiction equally; therefore, the entire county's population and all buildings are vulnerable to an earthquake and can expect the same impacts within the affected area. To accommodate this risk, this plan will consider all buildings located within the county as vulnerable.

At-Risk Facilities

Essential and critical facilities and community assets are vulnerable to earthquakes. These facilities would encounter many of the same impacts as any other building within the county. These impacts include structural failure and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). A complete list of all of the essential and critical facilities and community assets, including location, is included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for essential and critical facilities. These impacts include structural failure and loss of building function which could result in indirect impacts (e.g. damaged homes will no longer be habitable causing residents to seek shelter).

Infrastructure

During an earthquake, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since an extensive inventory of the infrastructure is not available to this plan, it is important to emphasize that any number of these items could become damaged in the event of an earthquake. The impacts to these items include broken, failed, or impassable roadways, broken or failed utility lines (e.g. loss of power or gas to community), and railway failure from broken or impassable railways. Bridges could also fail or become impassable causing traffic risks. Typical scenarios are described to gauge the anticipated impacts of earthquakes in the county in terms of numbers and types of buildings and infrastructure.

The Polis-SIU team reviewed existing geological information and recommendations for earthquake scenarios. Three earthquake scenarios— two based on deterministic scenarios and one based on probabilistic scenarios—were developed to provide a reasonable basis for earthquake planning in Piatt County. Note that a deterministic scenario, in this context, refers to hazard or risk models based on specific scenarios without explicit consideration of the probability of their occurrences.

The first deterministic scenario was a 7.1 magnitude epicenter along the Wabash Valley fault zone. Shake maps provided by USGS were used in Hazus-MH to estimate losses for Piatt County based on this event.

The second deterministic scenario was a moment magnitude of 5.5 with the epicenter located in the middle of Monticello. This scenario was selected based upon the opinion of the ISGS stating it could occur in the selected location and that it would therefore represent a realistic scenario for planning purposes.

Additionally, the analysis included a probabilistic scenario. These types of scenarios are based on ground shaking parameters derived from U.S. Geological Survey probabilistic seismic hazard curves. The probabilistic scenario was a 500-year return period scenario. This scenario evaluates the average impacts of a multitude of possible earthquake epicenters with a magnitude that would be typical of that expected for a 500-year return period. These analysis options were chosen because they are useful for prioritization of seismic reduction measures and for simulating mitigation strategies.

The following earthquake hazard modeling scenarios were performed:

- 7.1 magnitude earthquake on the Wabash Valley Fault System
- 5.5 magnitude earthquake local epicenter
- 500-year return period event

Modeling a deterministic scenario requires user input for a variety of parameters. One of the most critical sources of information that is required for accurate assessment of earthquake risk is soils data. Fortunately, a National Earthquake Hazards Reduction Program (NEHRP) soil classification map exists for Illinois. NEHRP soil classifications portray the degree of shear-wave amplification that can occur during ground shaking. The Illinois Geologic Survey (IGS) supplied the soils map that was used for the analysis. FEMA provided a map for liquefaction potential that was used by Hazus-MH.

An earthquake depth of 10.0 kilometers was selected based on input from IGS. Hazus-MH also requires the user to define an attenuation function unless ground motion maps are supplied. The decision was made to use the Central Eastern United States (CEUS) attenuation function. The probabilistic return period analysis and the annualized loss analysis do not require user input.

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

Results for 7.1 Magnitude Earthquake Wabash Valley Scenario

The results of the 7.1 Wabash Valley earthquake are depicted in Table 4-24, Table 4-25, and Figure 4-16. Hazus-MH estimates that approximately 81 buildings will be at least moderately damaged. This is more than 1% of the total number of buildings in the region. It is estimated that no building will be damaged beyond repair.

The total building related losses totaled $1.51 million; 7% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies, which made up more than 65% of the total loss.

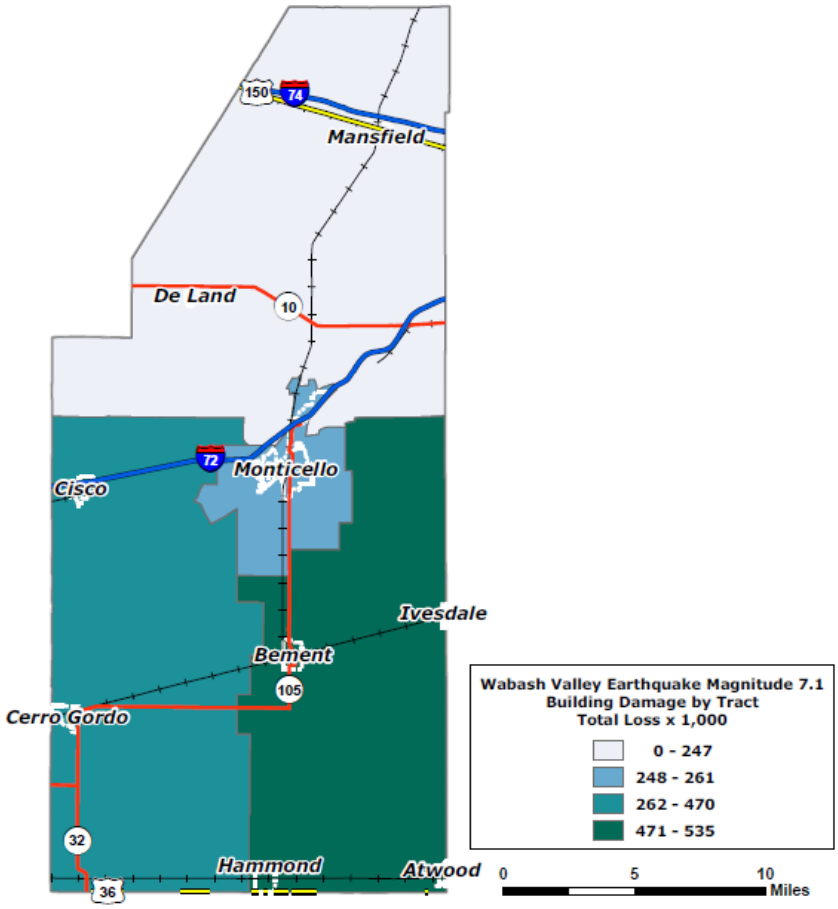
Table 4-24 Wabash Valley Scenario-Damage Counts by Building Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	489	6.80	54	13.16	18	22.76	1	24.72	0	11.64
Commercial	388	5.38	33	8.03	9	11.54	0	12.34	0	7.47
Education	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Government	426	5.91	28	6.87	7	8.73	0	7.60	0	7.82
Industrial	7	0.10	1	0.14	0	0.29	0	0.32	0	0.02
Other Residential	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Religion	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Single Family	5,889	81.81	296	71.79	44	56.69	2	55.03	0	73.04
Total	7,198		412		78		3		0	

Table 4-25: Wabash Valley Scenario-Building Economic losses in Millions of Dollars

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Loses							
	Wage	0.00	0.00	0.00	0.00	0.00	0.00
	Capital-Related	0.00	0.00	0.00	0.00	0.00	0.00
	Rental	0.01	0.00	0.01	0.00	0.00	0.03
	Relocation	0.05	0.00	0.02	0.00	0.01	0.08
	Subtotal	0.06	0.00	0.03	0.00	0.01	0.11
Capital Stock Loses							
	Structural	0.07	0.00	0.02	0.00	0.05	0.15
	Non_Structural	0.54	0.00	0.11	0.01	0.09	0.74
	Content	0.32	0.00	0.09	0.00	0.08	0.49
	Inventory	0.00	0.00	0.01	0.00	0.01	0.02
	Subtotal	0.92	0.00	0.23	0.01	0.24	1.41
	Total	0.99	0.00	0.26	0.01	0.25	1.51

Figure 4-16: Wabash Valley Scenario-Building Economic Losses in Thousands of Dollars



Wabash Valley Scenario—Essential Facility Losses

Before the earthquake, the region had 116 care beds available for use. On the day of the earthquake, the model estimates that only 61 care beds (53%) are available for use by patients already in medical care facilities and those injured by the earthquake. After one week, 97% of the beds will be back in service. By day 30, 100% will be operational.

Results for 5.5 Magnitude Earthquake in Piatt County

The results of the initial analysis, the 5.5 magnitude earthquake with an epicenter in the center of Piatt County, are depicted in Table 4-26 and 4-27 and Figure 4-17. Hazus-MH estimates that approximately 878 buildings will be at least moderately damaged. This is more than 11% of the total number of buildings in the region. It is estimated that 30 buildings will be damaged beyond repair.

The total building related losses totaled $20.65 million; 11% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies, which comprised more than 74% of the total loss.

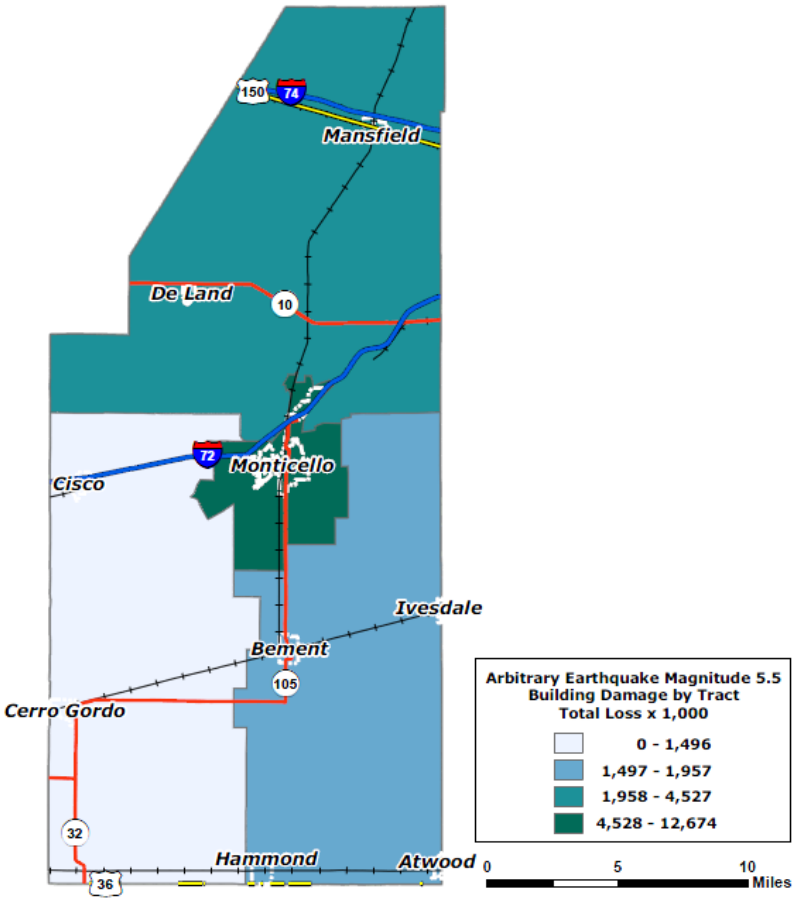
Table 4-26: Piatt County 5.5M Scenario-Damage Counts by Building Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	391	7.35	88	5.91	63	9.15	18	10.98	2	6.59
Commercial	270	5.09	82	5.49	57	8.30	17	10.87	3	9.54
Education	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Government	318	5.97	75	5.00	53	7.64	13	8.26	3	9.14
Industrial	5	0.09	1	0.09	1	0.20	0	0.30	0	0.13
Other Residential	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Religion	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Single Family	4,333	81.50	1,249	83.50	514	74.70	112	69.59	23	74.60
Total	**5,317**		**1,496**		**687**		**161**		**30**	

Table 4-27: Piatt County 5.5M Scenario-Building Economic Losses in Millions of Dollars

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses							
	Wage	0.00	0.00	0.06	0.00	0.00	0.07
	Capital-Related	0.00	0.00	0.02	0.00	0.01	0.03
	Rental	0.35	0.00	0.19	0.00	0.00	0.55
	Relocation	1.30	0.00	0.30	0.00	0.06	1.66
	Subtotal	**1.66**	**0.00**	**0.57**	**0.01**	**0.07**	**2.30**
Capital Stock Losses							
	Structural	1.40	0.00	0.42	0.01	0.35	2.18
	Non_Structural	7.85	0.00	1.33	0.10	0.55	9.83
	Content	4.33	0.00	1.16	0.10	0.52	6.10
	Inventory	0.00	0.00	0.11	0.03	0.09	0.24
	Subtotal	**13.57**	**0.00**	**3.01**	**0.25**	**1.52**	**18.35**
	Total	**15.23**	**0.00**	**3.58**	**0.26**	**1.59**	**20.65**

Figure 4-17: Piatt County 5.5M Scenario-Building Economic Losses in Thousands of Dollars



Piatt County 5.5M Scenario—Essential Facility Losses

Before the earthquake, the region had 116 care beds available for use. On the day of the earthquake, the model estimates that only 2 care beds (2%) are available for use by patients already in medical care facilities and those injured by the earthquake. After one week, 47% of the beds will be back in service. By day 30, 77% will be operational.

Results 5.0 Magnitude 500-Year Probabilistic Scenario

The results of the 500-year probabilistic analysis are depicted in Tables 4-28 and 4-29. Hazus-MH estimates that approximately 103 buildings will be at least moderately damaged. This is more than 1% of the total number of buildings in the region. It is estimated that 1 building will be damaged beyond repair. The total building-related losses totaled $0.85 million; 26% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies, which made up more than 66% of the total loss.

Table 4-28: 500-Year Probabilistic Scenario-Damage Counts by Building Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	514	7.03	32	11.35	14	15.88	2	16.77	0	9.93
Commercial	395	5.41	24	8.57	9	10.29	1	10.60	0	7.83
Education	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Government	429	5.87	23	7.97	8	9.57	1	8.50	0	8.97
Industrial	7	0.10	0	0.16	0	0.23	0	0.23	0	0.04
Other Residential	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Religion	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Single Family	5,961	81.59	203	71.97	57	64.02	9	63.90	1	73.23
Total	7,306		283		89		13		1	

Table 4-29: 500-Year Probabilistic Scenario-Building Economic Losses in Millions of Dollars

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses							
	Wage	0.00	0.00	0.01	0.00	0.00	0.01
	Capital-Related	0.00	0.00	0.00	0.00	0.00	0.00
	Rental	0.03	0.00	0.02	0.00	0.00	0.05
	Relocation	0.11	0.00	0.04	0.00	0.01	0.16
	Subtotal	0.14	0.00	0.07	0.00	0.01	0.22
Capital Stock Loses							
	Structural	0.12	0.00	0.05	0.00	0.06	0.23
	Non_Structural	0.25	0.00	0.04	0.00	0.02	0.31
	Content	0.05	0.00	0.02	0.00	0.01	0.08
	Inventory	0.00	0.00	0.00	0.00	0.00	0.00
	Subtotal	0.42	0.00	0.11	0.00	0.09	0.63
	Total	0.56	0.00	0.18	0.01	0.10	0.85

500-Year Probabilistic Scenario—Essential Facility Losses

Before the earthquake, the region had 116 care beds available for use. On the day of the earthquake, the model estimates that only 59 care beds (51%) are available for use by patients already in medical care facilities and those injured by the earthquake. After one week, 97% of the beds will be back in service. By day 30, 100% will be operational.

Vulnerability to Future Assets/Infrastructure for Earthquake Hazard

New construction, especially essential and critical facilities, will accommodate earthquake mitigation design standards.

Analysis of Community Development Trends

Community development will occur outside of the low-lying areas in floodplains with a water table within five feet of grade that is susceptible to liquefaction.

In Meeting #4, the MHMP team discussed specific mitigation strategies for potential earthquake hazards. The discussion included strategies to harden and protect future, as well as existing, structures against the possible termination of public services and systems including power lines, water and sanitary lines, and public communication.

4.4.4 Thunderstorm Hazard

Hazard Definition for Thunderstorm Hazard

Severe thunderstorms are defined as thunderstorms with one or more of the following characteristics: strong winds, large damaging hail, or frequent lightning. Severe thunderstorms most frequently occur in Illinois during the spring and summer months, but can occur any month of the year at any time of day. A severe thunderstorm's impacts can be localized or can be widespread in nature. A thunderstorm is classified as severe when it meets one or more of the following criteria.

- Hail of diameter 0.75 inches or higher
- Frequent and dangerous lightning
- Wind speeds equal to or greater than 58 miles per hour

Hail

Hail is a product of a strong thunderstorm. Hail usually falls near the center of a storm, however strong winds occurring at high altitudes in the thunderstorm can blow the hailstones away from the storm center, resulting in damage in other areas near the storm. Hailstones range from pea-sized to baseball-sized, but hailstones larger than softballs have been reported on rare occasions. Although hail rarely causes death, it is responsible for more than $1 billion in damage to property and crops annually.

Lightning

Lightning is a discharge of electricity from a thunderstorm. Lightning is often perceived as a minor hazard, but in reality lightning causes damage to many structures and kills or severely injures numerous people in the United States each year. The air around a lightning strike is heated up to 50,000F. The rapid heating and cooling of the surrounding air causes a shock wave that produces thunder. It is difficult to quantify lightning related damages, but NOAA estimates $4-$5 billion in losses each year.

Severe Winds (Straight-Line Winds)

Straight-line winds from thunderstorms are a fairly common occurrence across Illinois. Straight-line winds can cause damage to homes, businesses, power lines, and agricultural areas, and may require temporary sheltering of individuals who are without power for extended periods of time.

Previous Occurrences for Thunderstorm Hazard

The NCDC database reported 40 hailstorms in Piatt County since 1961. Hailstorms occur nearly every year in the late spring and early summer months. The most recent significant occurrence was in May of 2010, when unseasonably hot humid air moved across central Illinois.

Piatt County hailstorms are identified in Table 4-30. Additional details for NCDC events are included in Appendix C.

Table 4-30: Piatt County Hailstorms*

Location	Date	Type	Size	Deaths	Injuries	Property Damage	Crop Damage
Piatt	4/19/1972	Hail	0.75 in.	0	0	0	0
Piatt	7/3/1973	Hail	0.75 in.	0	0	0	0
Piatt	8/2/1974	Hail	0.75 in.	0	0	0	0
Piatt	4/10/1981	Hail	1.75 in.	0	0	0	0
Piatt	7/2/1985	Hail	1.50 in.	0	0	0	0
Piatt	5/16/1986	Hail	0.75 in.	0	0	0	0
Piatt	5/16/1986	Hail	0.75 in.	0	0	0	0
Piatt	7/31/1986	Hail	0.75 in.	0	0	0	0
Piatt	6/2/1987	Hail	1.30 in.	0	0	0	0
Deland	8/16/1993	Hail	0.75 in.	0	0	0	0
La Place	8/24/1997	Hail	1.75 in.	0	0	0	0
Cisco	5/12/1998	Hail	1.00 in.	0	0	0	0
Monticello	5/23/1998	Hail	0.75 in.	0	0	0	0
Atwood	4/10/1999	Hail	0.75 in.	0	0	0	0
Cerro Gordo	4/20/1999	Hail	1.75 in.	0	0	0	0
Monticello	4/22/1999	Hail	0.88 in.	0	0	0	0
Monticello	5/12/2000	Hail	1.75 in.	0	0	0	0
Bement	8/26/2000	Hail	4.00 in.	0	0	0	0
Bement	8/26/2000	Hail	1.00 in.	0	0	0	0
Monticello	8/18/2001	Hail	0.75 in.	0	0	0	0
Cerro Gordo	4/19/2002	Hail	1.75 in.	0	0	0	0
Monticello	3/19/2003	Hail	0.75 in.	0	0	0	0
Cerro Gordo	3/19/2003	Hail	0.75 in.	0	0	0	0
Mansfield	4/4/2003	Hail	1.75 in.	0	0	0	0
Cisco	5/8/2003	Hail	1.75 in.	0	0	0	0
White Heath	3/30/2005	Hail	1.00 in.	0	0	0	0
Hammond	5/13/2005	Hail	1.00 in.	0	0	0	0
Monticello	4/16/2006	Hail	0.75 in.	0	0	0	0
Hammond	4/19/2006	Hail	0.88 in.	0	0	0	0

Cisco	4/19/2006	Hail	0.88 in.	0	0	0	0
Mansfield	4/19/2006	Hail	0.75 in.	0	0	0	0
Bement	6/19/2006	Hail	0.75 in.	0	0	0	0
Deland	10/18/2007	Hail	0.88 in.	0	0	0	0
Monticello	5/15/2009	Hail	2.75 in.	0	0	255K	0
Cisco	5/15/2009	Hail	0.75 in.	0	0	0	0
Monticello	5/15/2009	Hail	1.25 in.	0	0	0	0
Monticello	5/15/2009	Hail	0.88 in.	0	0	0	0
Monticello	5/30/2009	Hail	1.00 in.	0	0	0	0
La Place	4/5/2010	Hail	0.75 in.	0	0	0	0
Monticello	5/24/2010	Hail	0.88 in.	0	0	0	0

** NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.*

The NCDC database reported one occurrence of a significant lightning strike in Piatt County since 1961. This occurred on May 15, 2009 when lightning struck a power pole in Monticello and caused $60,000 in damage to residential electrical systems and appliances. No injuries were reported.

The NCDC database identified 79 thunderstorm/wind storms reported since 1961, the most recent of which occurred on May 25, 2011 and caused $125,000 in damages.

As shown in Table 4-31, wind storms have historically occurred year-round. The following table includes available top wind speeds for Piatt County.

Table 4-31: Piatt County Wind Storms*

Location	Date	Type	Wind Speed	Deaths	Injuries	Property Damage	Crop Damage
Piatt	3/4/1961	Tstm Wind	0 kts.	0	0	0	0
Piatt	10/18/1963	Tstm Wind	0 kts.	0	0	0	0
Piatt	7/3/1973	Tstm Wind	0 kts.	0	0	0	0
Piatt	3/4/1974	Tstm Wind	0 kts.	0	0	0	0
Piatt	5/30/1974	Tstm Wind	0 kts.	0	0	0	0
Piatt	5/26/1975	Tstm Wind	0 kts.	0	0	0	0
Piatt	5/12/1978	Tstm Wind	0 kts.	0	0	0	0
Piatt	7/5/1980	Tstm Wind	0 kts.	0	0	0	0
Piatt	4/13/1981	Tstm Wind	52 kts.	0	0	0	0
Piatt	4/2/1982	Tstm Wind	0 kts.	0	0	0	0
Piatt	4/2/1982	Tstm Wind	0 kts.	0	0	0	0
Piatt	5/25/1984	Tstm Wind	0 kts.	0	0	0	0
Piatt	4/23/1985	Tstm Wind	0 kts.	0	0	0	0
Piatt	9/8/1989	Tstm Wind	0 kts.	0	0	0	0
Piatt	6/17/1990	Tstm Wind	0 kts.	0	0	0	0
Piatt	10/4/1991	Tstm Wind	0 kts.	0	0	0	0
Cisco	7/19/1994	Tstm Wind	0 kts.	0	0	0	0
Monticello	6/20/1995	Tstm Wind	0 kts.	0	0	0	0
Cerro Gordo	1/18/1996	Tstm Wind	0 kts.	0	0	0	0

Piatt	3/25/1996	High Wind	0 kts.	1	0	0	0
Cerro Gordo	5/3/1996	Tstm Wind	0 kts.	0	0	0	0
Monticello	10/29/1996	Tstm Wind	0 kts.	0	0	0	0
Piatt	10/30/1996	High Wind	56 kts.	0	0	0	0
Piatt	4/6/1997	High Wind	56 kts.	0	0	0	0
Piatt	4/30/1997	High Wind	61 kts.	0	1	38K	0
Monticello	4/30/1997	Tstm Wind	0 kts.	0	0	0	0
White Heath	7/21/1997	Tstm Wind	0 kts.	0	0	0	0
Piatt	9/29/1997	High Wind	55 kts.	0	0	0	0
Bement	5/19/1998	Tstm Wind	0 kts.	0	0	4K	0
Cerro Gordo	6/12/1998	Tstm Wind	0 kts.	0	0	0	0
Piatt	6/29/1998	Tstm Wind	0 kts.	0	0	300K	0
Piatt	11/10/1998	High Wind	57 kts.	0	1	60K	0
Cisco	11/10/1998	Tstm Wind	0 kts.	0	0	0	0
Monticello	6/1/1999	Tstm Wind	0 kts.	0	0	0	0
Mansfield	6/23/2000	Tstm Wind	0 kts.	0	0	0	0
Monticello	8/26/2000	Tstm Wind	0 kts.	0	0	5K	0
Cerro Gordo	2/9/2001	Tstm Wind	50 kts.	0	0	0	0
Deland	8/18/2001	Tstm Wind	55 kts.	0	0	0	0
Atwood	8/18/2001	Tstm Wind	50 kts.	0	0	0	0
Cisco	8/22/2001	Tstm Wind	50 kts.	0	0	0	0
Bement	8/30/2001	Tstm Wind	50 kts.	0	0	0	0
Bement	6/11/2002	Tstm Wind	50 kts.	0	0	0	0
Hammond	5/6/2003	Tstm Wind	55 kts.	0	0	0	0
Monticello	5/30/2003	Tstm Wind	60 kts.	0	0	0	0
Cerro Gordo	6/29/2003	Tstm Wind	52 kts.	0	0	0	0
Cisco	5/25/2004	Tstm Wind	52 kts.	0	0	0	0
Cerro Gordo	5/30/2004	Tstm Wind	52 kts.	0	0	0	0
Mansfield	5/30/2004	Tstm Wind	50 kts.	0	0	0	0
Mansfield	7/13/2004	Tstm Wind	58 kts.	0	1	800K	0
Cisco	7/22/2004	Tstm Wind	52 kts.	0	0	0	0
Cisco	8/9/2004	Tstm Wind	52 kts.	0	0	0	0
Piatt	11/24/2004	High Wind	52 kts.	0	0	0	0
Monticello	7/26/2005	Tstm Wind	50 kts.	0	0	0	0
Cisco	8/19/2005	Tstm Wind	50 kts.	0	0	0	0
Bement	4/2/2006	Tstm Wind	55 kts.	0	0	0	0
Hammond	4/2/2006	Tstm Wind	55 kts.	0	0	0	0
Cisco	4/14/2006	Tstm Wind	52 kts.	0	0	0	0
Cisco	4/16/2006	Tstm Wind	50 kts.	0	0	0	0
Monticello	5/15/2007	Tstm Wind	52 kts.	0	0	3K	0
Cisco	10/18/2007	Tstm Wind	52 kts.	0	0	22K	0
Burrowsville	5/2/2008	Tstm Wind	50 kts.	0	0	10K	0
Cerro Gordo	7/8/2008	Tstm Wind	52 kts.	0	0	15K	0
Monticello	5/13/2009	Tstm Wind	61 kts.	0	0	35K	0
Mansfield	6/18/2009	Tstm Wind	61 kts.	0	0	30K	0
White Heath	6/18/2009	Tstm Wind	61 kts.	0	0	30K	0
Atwood	6/18/2009	Tstm Wind	61 kts.	0	0	0	0
Mansfield	6/19/2009	Tstm Wind	52 kts.	0	0	25K	0

Galesville	6/19/2009	Tstm Wind	52 kts.	0	0	0	0
Cisco	6/19/2009	Tstm Wind	52 kts.	0	0	15K	0
Cisco	6/19/2009	Tstm Wind	52 kts.	0	0	60K	0
Galesville	6/19/2009	Tstm Wind	52 kts.	0	0	0	0
White Heath	8/4/2009	Tstm Wind	61 kts.	0	0	8K	0
Monticello	8/19/2009	Tstm Wind	52 kts.	0	0	10K	0
Monticello	8/19/2009	Tstm Wind	52 kts.	0	0	25K	0
Hammond	8/19/2009	Tstm Wind	52 kts.	0	0	17K	0
Piatt	4/29/2010	High Wind	55 kts.	0	0	1K	0
Cerro Gordo	4/19/2011	Tstm Wind	61 kts.	0	0	80K	0
Mansfield	4/19/2011	Tstm Wind	61 kts.	0	0	45K	0
Amenia	5/25/2011	Tstm Wind	70 kts.	0	0	125K	0

** NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.*

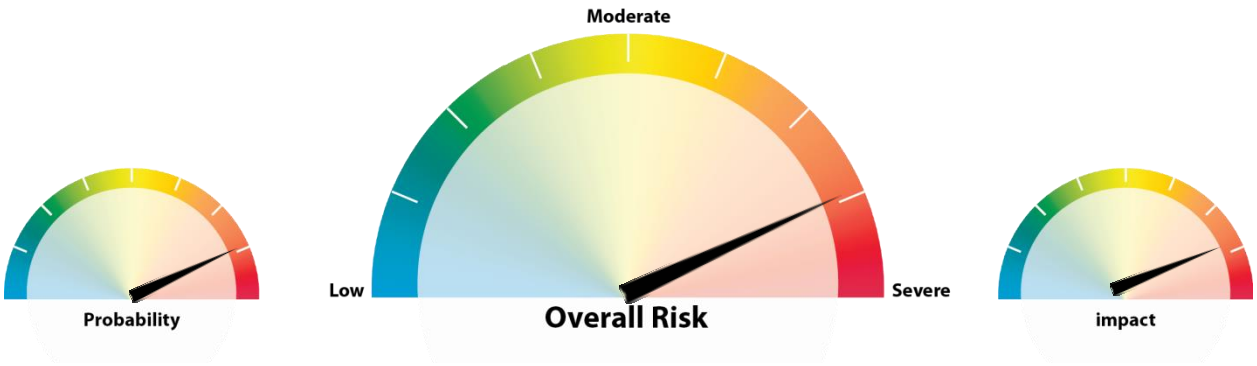
Geographic Location for Thunderstorm Hazard

The entire county has the same risk for occurrence of thunderstorms. They can occur at any location within the county.

Hazard Extent for Thunderstorm Hazard

The extent of the historical thunderstorms varies in terms of the extent of the storm, the wind speed, and the size of hail stones. Thunderstorms can occur at any location within the county.

Risk Identification for Thunderstorm Hazard



Based on historical information, the probability of a thunderstorm is high. In Meeting #2, the planning team determined that the potential impact of a thunderstorm is significant; therefore, the overall risk of a thunderstorm hazard for Piatt County is severe.

Vulnerability Analysis for Thunderstorm Hazard

Severe thunderstorms are an equally distributed threat across the entire jurisdiction; therefore, the entire county's population and all buildings are vulnerable to a severe thunderstorm and can expect the same impacts within the affected area. This plan will therefore consider all buildings

located within the county as vulnerable. The existing buildings and infrastructure in Piatt County are discussed in Table 4-6.

At-Risk Facilities

Essential and critical facilities and community assets are equally vulnerable to severe thunderstorms. These facilities will encounter many of the same impacts as any other building within the jurisdiction. The impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, fires caused by lightning, and loss of building functionality (e.g. a damaged police station will no longer be able to serve the community). Table 4-5 lists the types and numbers of all of the essential facilities in the area. Additional at-risk facility locations are included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is provided in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for essential and critical facilities. These impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, fires caused by lightning, and loss of building functionality (e.g. a damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a severe thunderstorm, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable it is important to emphasize that any number of these items could become damaged during a severe thunderstorm. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); or railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

Potential Dollar Losses for Thunderstorm Hazard

A Hazus-MH analysis was not completed for thunderstorms because the widespread extent of such a hazard makes it difficult to accurately model outcomes.

To determine dollar losses for a thunderstorm hazard, the available NCDC hazard information was condensed to include only thunderstorm hazards that occurred within the past ten years. Piatt County's MHMP team then reviewed the property damages reported to NCDC and made any applicable updates.

It was determined that since 2002, Piatt County has incurred over $1.3 million dollars in damages relating to thunderstorms, including hail, lightning, and high winds. The resulting information is listed below in Table 4-32.

Table 4-32: Piatt County Property Damage (2002–Present)

Location or County	Date	Type	Property Damage
Cerro Gordo	4/19/2002	Hail	$0
Bement	6/11/2002	Tstm Wind	$0
		2002 Subtotal	**$0**
Monticello	3/19/2003	Hail	$0
Cerro Gordo	3/19/2003	Hail	$0
Mansfield	4/4/2003	Hail	$0
Hammond	5/6/2003	Tstm Wind	$0
Cisco	5/8/2003	Hail	$0
Monticello	5/30/2003	Tstm Wind	$0
Cerro Gordo	6/29/2003	Tstm Wind	$0
		2003 Subtotal	**$0**
Cisco	5/25/2004	Tstm Wind	$0
Cerro Gordo	5/30/2004	Tstm Wind	$0
Mansfield	5/30/2004	Tstm Wind	$0
Mansfield	7/13/2004	Tstm Wind	$800,000
Cisco	7/22/2004	Tstm Wind	$0
Cisco	8/9/2004	Tstm Wind	$0
Piatt	11/24/2004	High Wind	$0
		2004 Subtotal	**$800,000**
White Heath	3/30/2005	Hail	$0
Hammond	5/13/2005	Hail	$0
Monticello	7/26/2005	Tstm Wind	$0
Cisco	8/19/2005	Tstm Wind	$0
		2005 Subtotal	**$0**
Bement	4/2/2006	Tstm Wind	$0
Hammond	4/2/2006	Tstm Wind	$0
Cisco	4/14/2006	Tstm Wind	$0
Cisco	4/16/2006	Tstm Wind	$0
Monticello	4/16/2006	Hail	$0
Hammond	4/19/2006	Hail	$0
Cisco	4/19/2006	Hail	$0
Mansfield	4/19/2006	Hail	$0
Bement	6/19/2006	Hail	$0
		2006 Subtotal	**$0**
Monticello	5/15/2007	Tstm Wind	$3,000
Cisco	10/18/2007	Tstm Wind	$22,000
Deland	10/18/2007	Hail	$0
		2007 Subtotal	**$0**
Burrowsville	5/2/2008	Tstm Wind	$10,000
Cerro Gordo	7/8/2008	Tstm Wind	$15,000
		2008 Subtotal	**$25,000**
Monticello	5/13/2009	Tstm Wind	$35,000

Location or County	Date	Type	Property Damage
Monticello	5/15/2009	Hail	$255,000
Cisco	5/15/2009	Hail	$0
Monticello	5/15/2009	Hail	$0
Monticello	5/15/2009	Lightning	$60,000
Monticello	5/15/2009	Hail	$0
Monticello	5/30/2009	Hail	$0
Mansfield	6/18/2009	Tstm Wind	$30,000
White Heath	6/18/2009	Tstm Wind	$30,000
Atwood	6/18/2009	Tstm Wind	$0
Mansfield	6/19/2009	Tstm Wind	$25,000
Galesville	6/19/2009	Tstm Wind	$0
Cisco	6/19/2009	Tstm Wind	$15,000
Cisco	6/19/2009	Tstm Wind	$60,000
Galesville	6/19/2009	Tstm Wind	$0
White Heath	8/4/2009	Tstm Wind	$8,000
Monticello	8/19/2009	Tstm Wind	$10,000
Monticello	8/19/2009	Tstm Wind	$25,000
Hammond	8/19/2009	Tstm Wind	$17,000
		2009 Subtotal	**$540,000**
La Place	4/5/2010	Hail	$0
Piatt	4/29/2010	High Wind	$1,000
Monticello	5/24/2010	Hail	$0
		2010Subtotal	**$1,000**
Cerro Gordo	4/19/2011	Tstm Wind	$80,000
Mansfield	4/19/2011	Tstm Wind	$45,000
Amenia	5/25/2011	Tstm Wind	$125,000
		2011Subtotal	**$250,000**
		Total Property Damage	**$1,616,000**

The historical data is erratic and not wholly documented or confirmed. As a result, potential dollar losses for a future event cannot be precisely calculated; however, based on averages in the last decade, it can be determined that Piatt County incurs an annual risk of approximately $161,600 per year.

Vulnerability to Future Assets/Infrastructure for Thunderstorm Hazard

All future development within the county and all communities will remain vulnerable to these events.

Analysis of Community Development Trends

Preparing for severe storms will be enhanced if officials sponsor a wide range of programs and initiatives to address the overall safety of county residents. New structures need to be built with more sturdy construction, and those structures already in place need to be hardened to lessen the potential impacts of severe weather. Community warning sirens to provide warning of approaching storms are also vital to preventing the loss of property and ensuring the safety of Piatt County residents.

4.4.5 Drought and Extreme Heat Hazard

Hazard Definition for Drought Hazard

Drought is a climatic phenomenon that occurs in Piatt County. The meteorological condition that creates a drought is below normal rainfall. However, excessive heat can lead to increased evaporation, which will enhance drought conditions. Droughts can occur in any month. Drought differs from normal arid conditions found in low rainfall areas. Drought is the consequence of a reduction in the amount of precipitation over an undetermined length of time (usually a growing season or more).

The severity of a drought depends on location, duration, and geographical extent. Additionally, drought severity depends on the water supply, usage demands made by human activities, vegetation, and agricultural operations. Drought brings several different problems that must be addressed. The quality and quantity of crops, livestock, and other agricultural assets will be affected during a drought. Drought can adversely impact forested areas leading to an increased potential for extremely destructive forest and woodland fires that could threaten residential, commercial, and recreational structures.

Hazard Definition for Extreme Heat Hazard

Drought conditions are often accompanied by extreme heat, which is defined as temperatures that hover 10°F or more above the average high for the area and last for several weeks. Extreme heat can occur in humid conditions when high atmospheric pressure traps the damp air near the ground or in dry conditions, which often provoke dust storms.

Common Terms Associated with Extreme Heat

Heat Wave: Prolonged period of excessive heat, often combined with excessive humidity

Heat Index: A number in degrees Fahrenheit that tells how hot it feels when relative humidity is added to air temperature. Exposure to full sunshine can increase the heat index by 15°F.

Heat Cramps: Muscular pains and spasms due to heavy exertion. Although heat cramps are the least severe, they are often the first signal that the body is having trouble with heat.

Heat Exhaustion: Typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs, resulting in a form of mild shock. If left untreated, the victim's condition will worsen. Body temperature will continue to rise and the victim may suffer heat stroke.

Heat and Sun Stroke: A life-threatening condition. The victim's temperature control system, which produces sweat to cool the body, stops working. The body's temperature can rise so high that brain damage and death may result if the body is not cooled quickly.
Source: FEMA

Previous Occurrences for Drought and Extreme Heat Hazard

The NCDC database reported eight drought/heat wave events in Piatt County since 1961. Since 1997, ten deaths have been attributed to excessive heat in Piatt County.

NCDC records of droughts/heat waves are identified in Table 4-33. Additional details for NCDC events are included in Appendix C.

Table 4-33: Piatt County Drought/Heat Wave Events*

Location or County	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
Piatt	7/26/1997	Excessive Heat	2	0	0	0
Piatt	6/26/1998	Excessive Heat	1	0	0	0
Piatt	7/20/1999	Excessive Heat	4	0	0	0
Piatt	7/28/1999	Excessive Heat	1	0	0	0
Piatt	7/22/2005	Excessive Heat	1	0	0	0
Piatt	7/30/2006	Heat	1	0	0	0
Piatt	8/1/2006	Heat	0	0	0	0
Piatt	8/3/2010	Excessive Heat	0	0	0	0

** NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.*

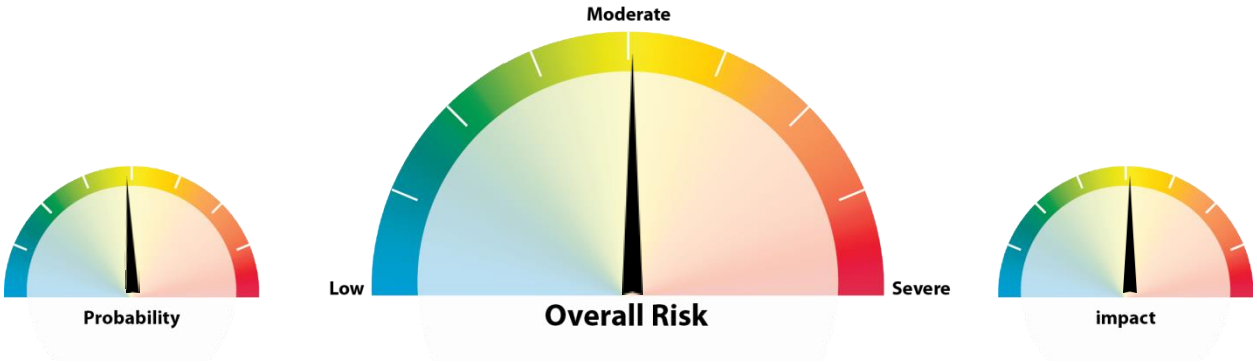
Geographic Location for Drought and Extreme Heat Hazard

Droughts are regional in nature. All areas of the United States are vulnerable to the risk of drought and extreme heat.

Hazard Extent for Drought and Extreme Heat Hazard

Droughts and extreme heat can be widespread or localized events. The extent of the droughts varies both in terms of the extent of the heat and the range of precipitation.

Risk Identification for Drought/Extreme Heat Hazard



Based on historical information, the probability of a drought is medium. In Meeting #2, the planning team determined that the potential impact of a drought or an extended period of

extreme heat is moderate; therefore, the overall risk of a drought/extreme heat hazard for Piatt County is moderate.

Vulnerability Analysis for Drought and Extreme Heat Hazard

Drought and extreme heat impacts are an equally distributed threat across the entire jurisdiction; therefore, the county is vulnerable to this hazard and can expect the same impacts within the affected area. According to FEMA, approximately 175 Americans die each year from extreme heat. Young children, elderly, and infirmed populations have the greatest risk.

The entire population and all buildings have been identified as at risk. The building exposure for Piatt County, as determined from the building inventory is included in Table 4-6.

At-Risk Facilities

Essential and critical facilities and community assets are equally vulnerable to drought. These facilities will encounter many of the same impacts as any other building within the jurisdiction, which should involve only minor damage. The impacts include water shortages, fires as a result of drought conditions, and residents in need of medical care from the heat and dry weather. Table 4-5 lists the types and numbers of all of the essential facilities in the area. Critical facility locations are included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts similar to those discussed for essential and critical facilities. These impacts include water shortages, fires as a result of drought conditions, and residents in need of medical care from the heat and dry weather.

Infrastructure

During a drought the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. The risk to these structures is primarily associated with a fire that could result from the hot, dry conditions. Since the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these items could become damaged during a heat wave. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); or railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

Vulnerability to Future Assets/Infrastructure for Drought/Extreme Heat Hazard

Future development will remain vulnerable to these events. Typically, some urban and rural areas are more susceptible than others. For example, urban areas are subject to water shortages during periods of drought. Excessive demands of the populated area place a limit on water

resources. In rural areas, crops and livestock may suffer from extended periods of heat and drought. Dry conditions can lead to the ignition of wildfires that could threaten residential, commercial, and recreational areas.

Analysis of Community Development Trends

Because droughts and extreme heat are regional in nature, future development will be impacted across the county. Although urban and rural areas are equally vulnerable to this hazard, those living in urban areas may have a greater risk from the effects of a prolonged heat wave. The atmospheric conditions that create extreme heat tend to trap pollutants in urban areas, adding contaminated air to the excessively hot temperatures and creating increased health problems. Furthermore, asphalt and concrete store heat longer, gradually releasing it at night and producing high nighttime temperatures. This phenomenon is known as the "urban heat island effect".
Source: FEMA

Local officials should address drought and extreme heat hazards by educating the public on steps to take before and during the event—for example, temporary window reflectors to direct heat back outside, staying indoors as much as possible, and avoiding strenuous work during the warmest part of the day.

4.4.6 Winter Storm Hazard

Hazard Definition for Winter Storm Hazard

Severe winter weather consists of various forms of precipitation and strong weather conditions. This may include one or more of the following: freezing rain, sleet, heavy snow, blizzards, icy roadways, extreme low temperatures, and strong winds. These conditions can cause human health risks such as frostbite, hypothermia, and death.

Ice (glazing) and Sleet Storms

Ice or sleet, even in small quantities, can result in hazardous driving conditions and can cause property damage. Sleet involves frozen raindrops that bounce when they hit the ground or other objects. Sleet does not stick to trees and wires. Ice storms, on the other hand, involve liquid rain that falls through subfreezing air and/or onto sub-freezing surfaces, freezing on contact with those surfaces. The ice coats trees, buildings, overhead wires, and roadways, sometimes causing extensive damage.

The most damaging winter storms in southern Illinois have been ice storms. Ice storms occur when moisture-laden gulf air converges with the northern jet stream causing strong winds and heavy precipitation. This precipitation takes the form of freezing rain coating power and communication lines and trees with heavy ice. The winds will then cause the overburdened limbs and cables to snap; leaving large sectors of the population without power, heat, or communication. In the past few decades, including the winter of 2007–08, numerous ice storm events have occurred in southern Illinois.

Snowstorms

Significant snowstorms are characterized by the rapid accumulation of snow, often accompanied by high winds, cold temperatures, and low visibility. A blizzard is categorized as a snowstorm with winds of 35 miles per hour or greater and/or visibility of less than one-quarter mile for three or more hours. The strong winds during a blizzard blow about falling and already existing snow, creating poor visibility and impassable roadways. Blizzards have the potential to result in property damage.

Illinois has repeatedly been struck by blizzards. Blizzard conditions cannot only cause power outages and loss of communication, but also make transportation difficult. The blowing of snow can reduce visibility to less than one-quarter mile, and the resulting disorientation makes even travel by foot dangerous if not deadly.

Severe Cold

Severe cold is characterized by the ambient air temperature dropping to around 0°F or below. These extreme temperatures can increase the likelihood of frostbite and hypothermia. High winds during severe cold events can enhance the air temperature's effects. Fast winds during cold weather events can lower the wind chill factor (how cold the air feels on your skin). As a result, the time it takes for frostbite and hypothermia to affect a person's body will decrease.

Previous Occurrences for Winter Storm Hazard

The NCDC database identified 38 winter storm and extreme cold events for Piatt County since 1961. There have been ten deaths in Piatt County attributed to winter storms..

The NCDC winter storms are listed in Table 4-34. Additional details for NCDC events are included in Appendix C.

Table 4-34: Winter Storm Events*

Location	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
Piatt	12/8/1995	Winter Storm	1	0	0	0
Piatt	12/18/1995	Winter Storm	1	0	0	0
Piatt	1/2/1996	Winter Storm	0	4	0	0
Piatt	1/4/1996	Winter Storm	0	0	0	0
Piatt	1/18/1996	Winter Storm	0	2	0	0
Piatt	2/2/1996	Extreme Cold	2	0	0	0
Piatt	11/25/1996	Winter Storm	0	0	0	0
Piatt	1/8/1997	Heavy Snow	0	6	0	0
Piatt	1/15/1997	Winter Storm	1	7	0	0
Piatt	1/26/1997	Winter Storm	0	9	0	0
Piatt	3/8/1998	Winter Storm	2	0	0	0
Piatt	1/1/1999	Heavy Snow	1	1	0	0
Piatt	1/5/1999	Extreme Cold	0	0	0	0
Piatt	1/13/1999	Ice Storm	0	0	0	0

Location	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
Piatt	3/8/1999	Heavy Snow	0	5	0	0
Piatt	1/19/2000	Winter Storm	0	2	0	0
Piatt	12/13/2000	Winter Storm	1	1	0	0
Piatt	3/25/2002	Winter Storm	0	0	0	0
Piatt	12/24/2002	Heavy Snow	0	0	0	0
Piatt	2/14/2003	Winter Storm	0	0	0	0
Piatt	1/5/2005	Ice Storm	0	0	0	0
Piatt	12/1/2006	Winter Storm	0	0	0	0
Piatt	2/12/2007	Blizzard	0	0	0	0
Piatt	2/12/2007	Winter Storm	0	0	0	0
Piatt	4/5/2007	Frost/freeze	0	0	0	0
Piatt	12/8/2007	Ice Storm	0	0	0	0
Piatt	12/15/2007	Heavy Snow	0	0	0	0
Piatt	1/31/2008	Heavy Snow	0	0	0	0
Piatt	2/1/2008	Heavy Snow	0	0	0	0
Piatt	1/6/2009	Winter Weather	0	0	0	0
Piatt	1/15/2009	Extreme Cold/wind Chill	1	0	0	0
Piatt	2/21/2009	Winter Weather	0	0	0	0
Piatt	1/6/2010	Winter Storm	0	0	0	0
Piatt	2/8/2010	Winter Weather	0	0	0	0
Piatt	12/12/2010	Blizzard	0	0	0	0
Piatt	12/12/2010	Winter Weather	0	0	0	0
Piatt	2/1/2011	Blizzard	0	0	$200,000	0
Piatt	2/1/2011	Winter Storm	0	0	$10,000	0

** NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.*

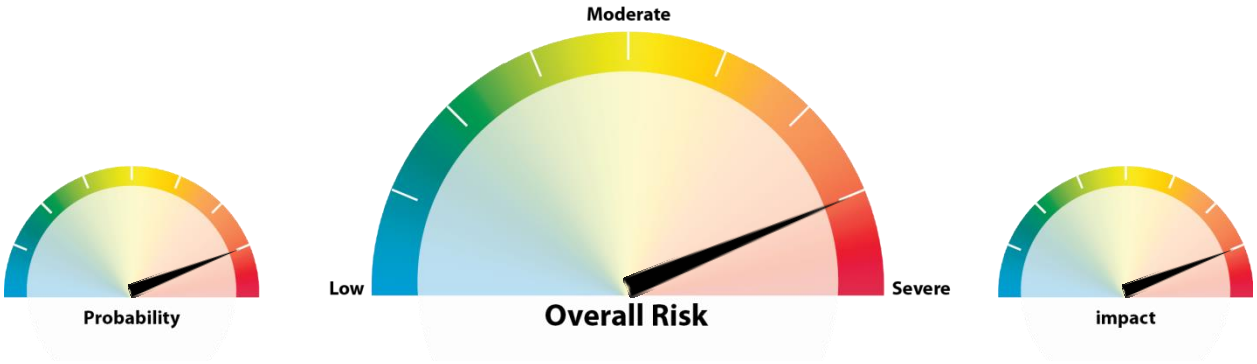
Geographic Location for Winter Storm Hazard

Severe winter storms are regional in nature. Most of the NCDC data is calculated regionally or in some cases statewide.

Hazard Extent for Winter Storm Hazard

The extent of the historical winter storms varies in terms of storm location, temperature, and ice or snowfall. A severe winter storm can occur anywhere in the jurisdiction.

Risk Identification for Winter Storm Hazard



Based on historical information, the probability of a winter storm is high. In Meeting #2, the planning team determined that the potential impact of a winter storm is significant; therefore, the overall risk of a winter storm hazard for Piatt County is severe.

Vulnerability Analysis for Winter Storm Hazard

Winter storm impacts are equally distributed across the entire jurisdiction; therefore, the entire county is vulnerable to a winter storm and can expect the same impacts within the affected area. The building exposure for Piatt County, as determined from the building inventory, is included in Table 4-6.

At-Risk Facilities

Essential and critical facilities and community assets are vulnerable to winter storms. A critical facility will encounter many of the same impacts as other buildings within the jurisdiction. These impacts include loss of gas or electricity from broken or damaged utility lines, damaged or impassable roads and railways, broken water pipes, and roof collapse from heavy snow. Table 4-5 lists the types and numbers of the essential facilities in the county. Additional facility information is included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The impacts to the general buildings within the county are similar to the damages expected to the essential and critical facilities. These include loss of gas or electricity from broken or damaged utility lines, damaged or impassable roads and railways, broken water pipes, and roof collapse from heavy snow.

Infrastructure

During a winter storm, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally

vulnerable it is important to emphasize that any number of these items could become damaged during a winter storm. Potential impacts include broken gas and/or electricity lines or damaged utility lines, damaged or impassable roads and railways, and broken water pipes.

Potential Dollar Losses for Winter Storm Hazard

A Hazus-MH analysis was not completed for winter storms because the widespread extent of such a hazard makes it difficult to accurately model outcomes.

To determine dollar losses for a winter storm hazard, the available NCDC hazard information was condensed to include only winter storm hazards that occurred within the past ten years. Piatt County's MHMP team then reviewed the property damages reported to NCDC and made any applicable updates.

It was determined that since 2002, Piatt County has incurred $210,000 in damages relating to winter storms, including sleet/ice and heavy snow. The resulting information is listed in Table 4-35.

Table 4-35: Piatt County Property Damage (2002-Present)

Location or County	Date	Type	Property Damage
		2002 Subtotal	**$0**
Piatt	2/14/2003	Winter Storm	0
		2003 Subtotal	**$0**
		2004 Subtotal	**$0**
Piatt	1/5/2005	Ice Storm	0
		2005 Subtotal	**$0**
Piatt	12/1/2006	Winter Storm	0
		2006 Subtotal	**$0**
Piatt	2/12/2007	Blizzard	0
Piatt	2/12/2007	Winter Storm	0
Piatt	4/5/2007	Frost/freeze	0
Piatt	12/8/2007	Ice Storm	0
Piatt	12/15/2007	Heavy Snow	0
		2007 Subtotal	**$0**
Piatt	1/31/2008	Heavy Snow	0
Piatt	2/1/2008	Heavy Snow	0
		2008 Subtotal	**$0**
Piatt	1/6/2009	Winter Weather	0
Piatt	1/15/2009	Extreme Cold/wind Chill	0
Piatt	2/21/2009	Winter Weather	0
		2009 Subtotal	**$0**
Piatt	1/6/2010	Winter Storm	0
Piatt	2/8/2010	Winter Weather	0
Piatt	12/12/2010	Blizzard	0
Piatt	12/12/2010	Winter Weather	0

Location or County	Date	Type	Property Damage
		2010 Subtotal	**$0**
Piatt	2/1/2011	Blizzard	$200,000
Piatt	2/1/2011	Winter Storm	$10,000
		2011 Subtotal	**$210,000**
		Total Property Damage	**$210,000**

The historical data is erratic and not wholly documented or confirmed. As a result, potential dollar losses for a future event cannot be precisely calculated; however, based on averages in the last decade, it can be determined that Piatt County incurs an annual risk of approximately $21,000 per year.

Vulnerability to Future Assets/Infrastructure for Winter Storm Hazard

Any new development within the county will remain vulnerable to these events.

Analysis of Community Development Trends

Because the winter storm events are regional in nature future development will be equally impacted across the county.

4.4.7 Hazardous Materials Storage and Transport Hazard

Hazard Definition for Hazardous Materials Storage and Transport Hazard

Illinois has numerous active transportation lines that run through many of its counties. Active railways transport harmful and volatile substances between our borders every day. The transportation of chemicals and substances along interstate routes is commonplace in Illinois. The rural areas of Illinois have considerable agricultural commerce creating a demand for fertilizers, herbicides, and pesticides to be transported along rural roads. These factors increase the chance of hazardous material releases and spills throughout the state of Illinois.

The release or spill of certain substances can cause an explosion. Explosions result from the ignition of volatile products such as petroleum products, natural and other flammable gases, hazardous materials/chemicals, dust, and bombs. An explosion can potentially cause death, injury, and property damage. In addition, a fire routinely follows an explosion which may cause further damage and inhibit emergency response. Emergency response may require fire, safety/law enforcement, search and rescue, and hazardous materials units.

Previous Occurrences for Hazardous Materials Storage and Transport Hazard

Piatt County has not experienced a significantly large-scale hazardous material incident at a fixed site or during transport resulting in multiple deaths or serious injuries, although there have been many minor releases that have put local firefighters, hazardous materials teams, emergency management, and local law enforcement into action to try to stabilize these incidents and prevent or lessen harm to Piatt County residents.

Geographic Location for Hazardous Materials Storage and Transport Hazard

The hazardous material hazards are countywide and are primarily associated with the transport of materials via highway, railroad, and/or river barge.

Hazard Extent for Hazardous Materials Storage and Transport Hazard

The extent of the hazardous material hazard varies both in terms of the quantity of material being transported as well as the specific content of the container.

Risk Identification for Hazardous Materials Release

Based on historical information, the probability of a hazmat hazard is low. In Meeting #2, the planning team determined that the potential impact of a hazmat release is moderate; therefore, the overall risk of a hazmat hazard for Piatt County is moderately low.

Vulnerability Analysis for Hazardous Materials Storage and Transport Hazard

Hazardous material impacts are an equally distributed threat across the entire jurisdiction; therefore, the entire county is vulnerable to a hazardous material release and can expect the same impacts within the affected area. The main concern during a release or spill is the population affected. The building exposure for Piatt County, as determined from building inventory, is included in Table 4-6. This plan will therefore consider all buildings located within the county as vulnerable.

At-Risk Facilities

Essential and critical facilities and community assets are equally at risk. These facilities will encounter many of the same impacts as any other building within the jurisdiction. The impacts include structural failure due to fire or explosion and loss of function of the facility (e.g. a damaged police station will no longer be able to serve the community). Table 4-5 lists the types and numbers of all essential facilities in the area. Additional facility information is included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for essential or critical facilities. These impacts include structural failure due to fire or explosion or debris and loss of function of the building (e.g. a damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a hazardous material release the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since an extensive inventory of the infrastructure is not available to this plan it is important to emphasize that any number of these items could become damaged in the event of a hazardous material release. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); and railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

In terms of numbers and types of buildings and infrastructure, typical scenarios are described to gauge the anticipated impacts of hazardous material release events in the county.

Due to the significant risk of a hazardous material spill in Piatt County, the MHMP planning team determined it appropriate to model two different hazardous materials accidents.

Hazardous Material Release – *Scenario #1*

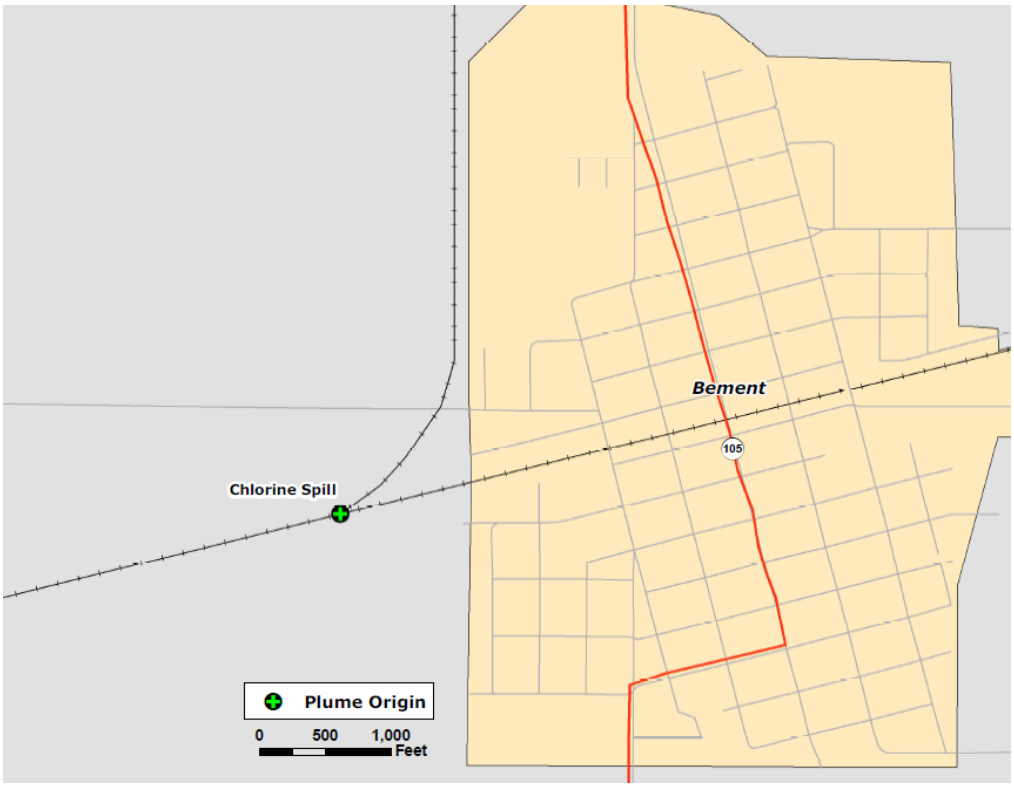
The U.S. EPA's ALOHA (Areal Locations of Hazardous Atmospheres) model was utilized to assess the area of impact for a chlorine gas release at the Norfolk Southern Railway just west of the town of Bement.

Chlorine is a greenish yellow gas with a pungent suffocating odor. The gas liquefies at -35°C and room pressure or will liquefy from pressure applied at room temperature. Contact with unconfined liquid chlorine can cause frostbite from evaporative cooling. Chlorine does not burn, but, like oxygen, supports combustion. The toxic gas can have adverse health effects from either long-term inhalation of low concentrations of vapors or short-term inhalation of high concentrations. Chlorine vapors are much heavier than air and tend to settle in low areas. Chlorine is commonly used to purify water, bleach wood pulp, and make other chemicals.
Source: CAMEO

ALOHA is a computer program designed especially for use by people responding to chemical accidents, as well as for emergency planning and training. Chlorine is a common chemical used in industrial operations and can be found in either liquid or gas form. Rail and truck tankers commonly haul Chlorine to and from facilities.

For this scenario, moderate atmospheric and climatic conditions with a slight breeze from the west were assumed. The target area was chosen due to its proximity to residential, commercial and critical facility locations. The geographic area covered in this analysis is depicted in Figure 4-18.

Figure 4-18: Location of Chemical Release



Analysis

The ALOHA atmospheric modeling parameters, depicted in Figure 4-19, were based upon a westerly wind speed of 5 mph. The temperature was 68°F with 75% humidity and the cloud cover is five tenths skies.

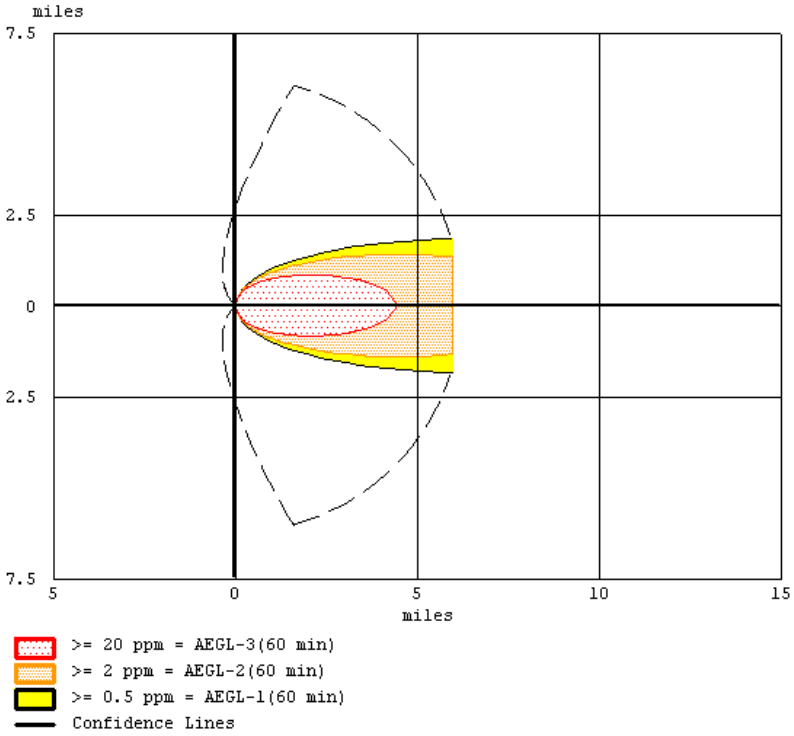
The source of the chemical spill is a horizontal cylindrical-shaped tank. The diameter of the tank was set to 8 feet and the length set to 33 feet (12,408 gallons). At the time of its release, it was estimated that the tank was 85% full. The chlorine in this tank is in its liquid state.

This release was based on a leak from a 2.5-inch-diameter hole, 12 inches above the bottom of the tank. According to the ALOHA parameters, approximately 10,400 pounds of material would be released per minute. The image in Figure 4-20 depicts the plume footprint generated by ALOHA.

Figure 4-19: ALOHA Plume Modeling Parameters

```
SITE DATA:
  Location: BEMENT, ILLINOIS
  Building Air Exchanges Per Hour: 0.30 (sheltered single storied)
  Time: September 6, 2011  1428 hours CDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: CHLORINE                 Molecular Weight: 70.91 g/mol
  AEGL-1(60 min): 0.5 ppm   AEGL-2(60 min): 2 ppm   AEGL-3(60 min): 20 ppm
  IDLH: 10 ppm
  Ambient Boiling Point: -30.2° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 5 miles/hour from W at 10 meters
  Ground Roughness: open country          Cloud Cover: 5 tenths
  Air Temperature: 68° F                  Stability Class: B
  No Inversion Height                     Relative Humidity: 75%

SOURCE STRENGTH:
  Leak from hole in horizontal cylindrical tank
  Non-flammable chemical is escaping from tank
  Tank Diameter: 8 feet                   Tank Length: 33 feet
  Tank Volume: 12,408 gallons
  Tank contains liquid                    Internal Temperature: 68° F
  Chemical Mass in Tank: 62.2 tons        Tank is 85% full
  Circular Opening Diameter: 2.5 inches
  Opening is 12 inches from tank bottom
  Release Duration: 17 minutes
  Max Average Sustained Release Rate: 10,400 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 116,107 pounds
  Note: The chemical escaped as a mixture of gas and aerosol (two phase flow).

THREAT ZONE:
  Model Run: Heavy Gas
  Red   : 4.4 miles --- (20 ppm = AEGL-3(60 min))
  Orange: greater than 6 miles --- (2 ppm = AEGL-2(60 min))
  Yellow: greater than 6 miles --- (0.5 ppm = AEGL-1(60 min))
```

Figure 4-20: Plume Footprint Generated by ALOHA



Acute Exposure Guideline Levels (AEGLs) are intended to describe the health effects on humans due to once-in-a-lifetime or rare exposure to airborne chemicals. The National Advisory Committee for AEGLs is developing these guidelines to help both national and local authorities, as well as private companies, deal with emergencies involving spills or other catastrophic exposures. As the substance moves away from the source, the level of substance concentration decreases. Each color-coded area depicts a level of concentration measured in parts per million (ppm). The image in Figure 4-21 depicts the plume footprint generated by ALOHA in ArcGIS.

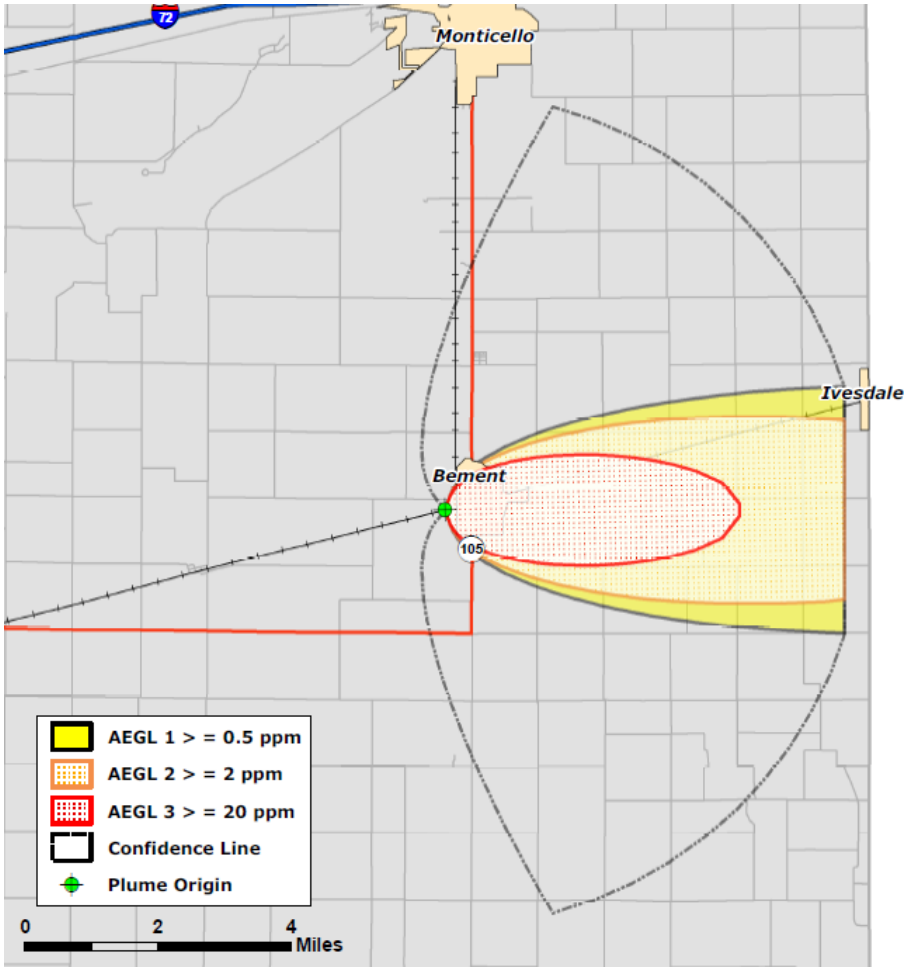
- **AEGL 3:** Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death. The red buffer (>= 20 ppm) extends no more than 4.8 miles from the point of release after one hour.

- **AEGL 2:** Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape. The orange buffer (>= 2 ppm) extends no more than six miles from the point of release after one hour.

- **AEGL 1:** Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure. The yellow buffer (>= 0.5 ppm) extends more than six miles from the point of release after one hour.

- **Confidence Lines:** The dashed lines depict the level of confidence in which the exposure zones will be contained. The ALOHA model is 95% confident that the release will stay within this boundary.

Figure 4-21: ALOHA Plume Footprint Overlaid in ArcGIS

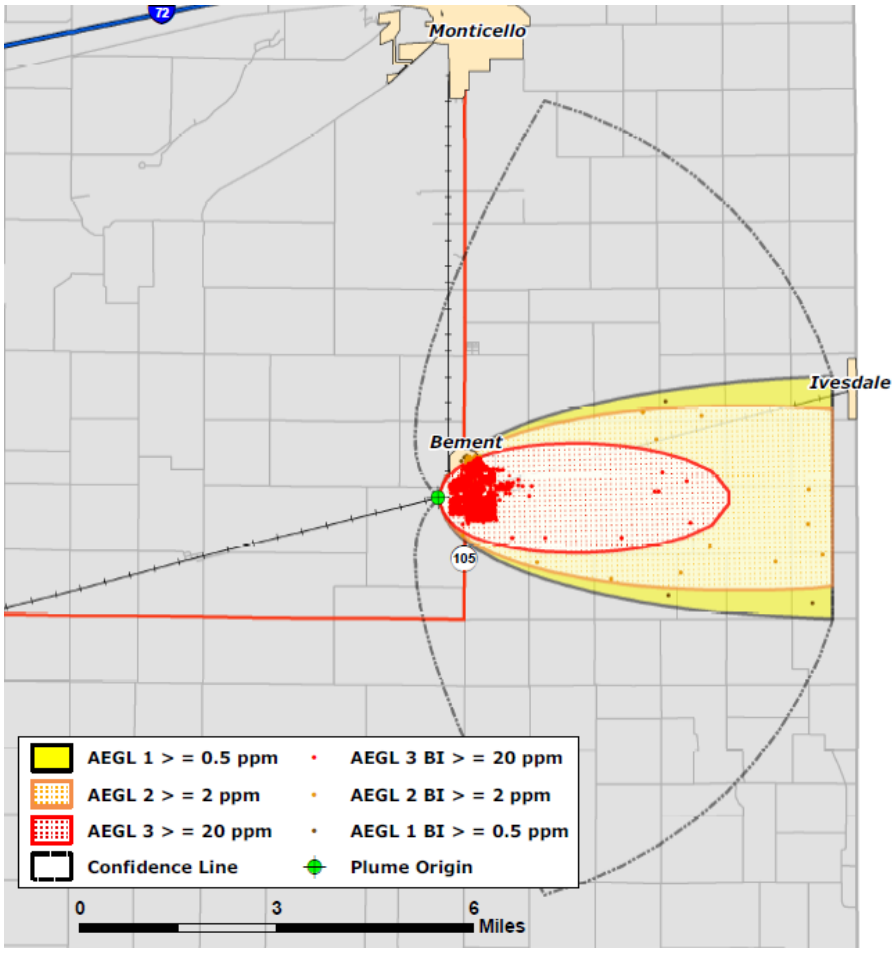


Results

By summing the building inventory within all AEGL exposure levels (Level 3: 20 ppm, Level 2: 2 ppm and Level 1: 0.5 ppm.); the GIS overlay analysis predicts that as many as 777 buildings could be exposed at a replacement cost of $19.7 million. The overlay was performed against parcels provided by Piatt County that were joined with Assessor records showing property improvement. If this event were to occur, approximately 1,683 people would be affected.

The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Figure 4-22: Piatt County Building Inventory Classified By Plume Footprint



Building Inventory Damage

The results of the analysis against the Building Inventory points are depicted in Tables 4-36 through 4-39. Table 4-36 summarizes the results of the chemical spill by combining all AEGL levels. Tables 4-37 through 4-39 summarize the results of the chemical spill for each level separately.

Table 4-36: Estimated Exposure for all AEGL Levels (all ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	1,683	673	$16,991
Commercial	0	49	$1,990
Industrial	0	2	$111
Agriculture	0	18	$648
Religious	0	0	$0
Government	0	35	$0
Education	0	0	$0
Total	**1,683**	**777**	**$19,741**

Table 4-37: Estimated Exposure for AEGL Level 3 (>=20 ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	1,638	655	$16,458
Commercial	0	44	$1,854
Industrial	0	2	$111
Agriculture	0	7	$272
Religious	0	0	$0
Government	0	33	$0
Education	0	0	$0
Total	**1,638**	**741**	**$18,696**

Table 4-38: Estimated Exposure for AEGL Level 2 (>=2 ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	43	17	$513
Commercial	0	4	$117
Industrial	0	0	$0
Agriculture	0	8	$254
Religious	0	0	$0
Government	0	0	$0
Education	0	0	$0
Total	**43**	**29**	**$884**

Table 4-39: Estimated Exposure for AEGL Level 1 (>=0.5 ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	3	1	$20
Commercial	0	1	$19
Industrial	0	0	$0
Agriculture	0	3	$122
Religious	0	0	$0
Government	0	2	$0
Education	0	0	$0
Total	**3**	**7**	**$161**

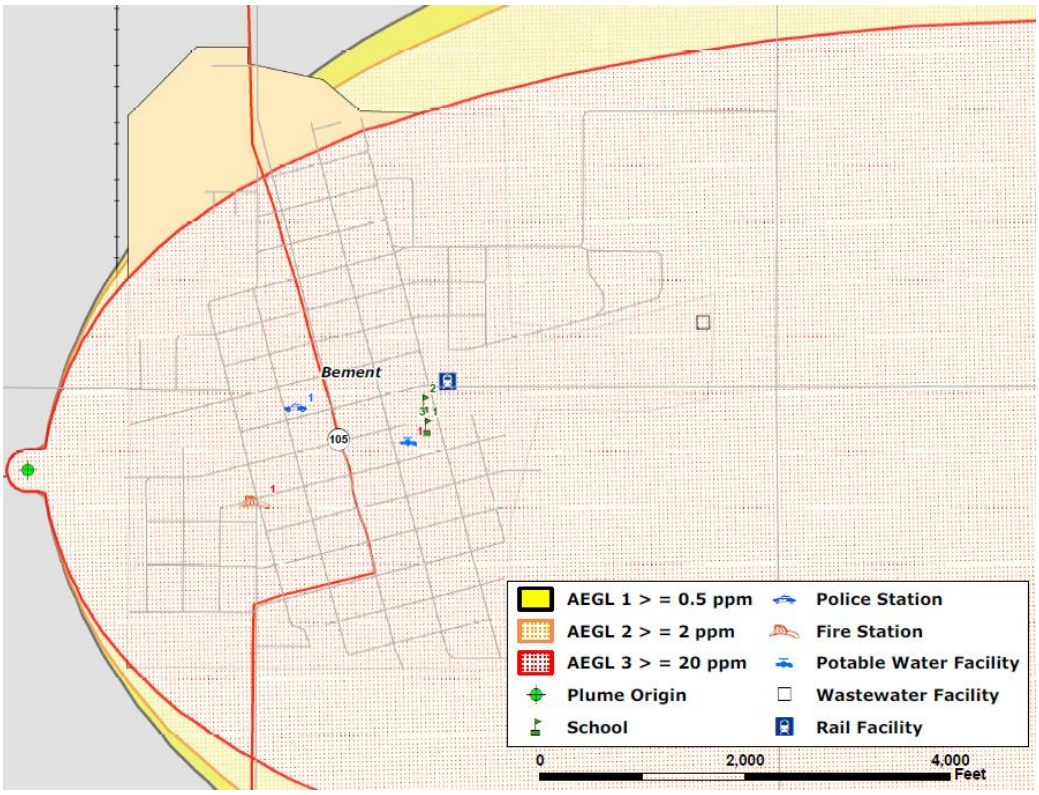
At-Risk Facilities Damage

There are eight critical facilities within the limits of the chemical spill plume. The affected facilities are identified in Table 4-40. Their geographic locations are depicted in Figures 4-23.

Table 4-40: Facilities within Plume Footprint

Facility Type	Facility Name
Essential Facility	Bement High School
Essential Facility	Bement Elementary School
Essential Facility	Bement Middle School
Essential Facility	Bement Police Department
Essential Facility	Bemment Fire Department
Critical Facility	Bement Grain Co. (Rail Facility)
Critical Facility	Water Tower (Potable Water Facility
Critical Facility	Bement STP (Wastewater Facility

Figure 4-23: Critical Facilities at Greatest Risk within Plume Footprint



Hazardous Material Release – *Scenario #2*

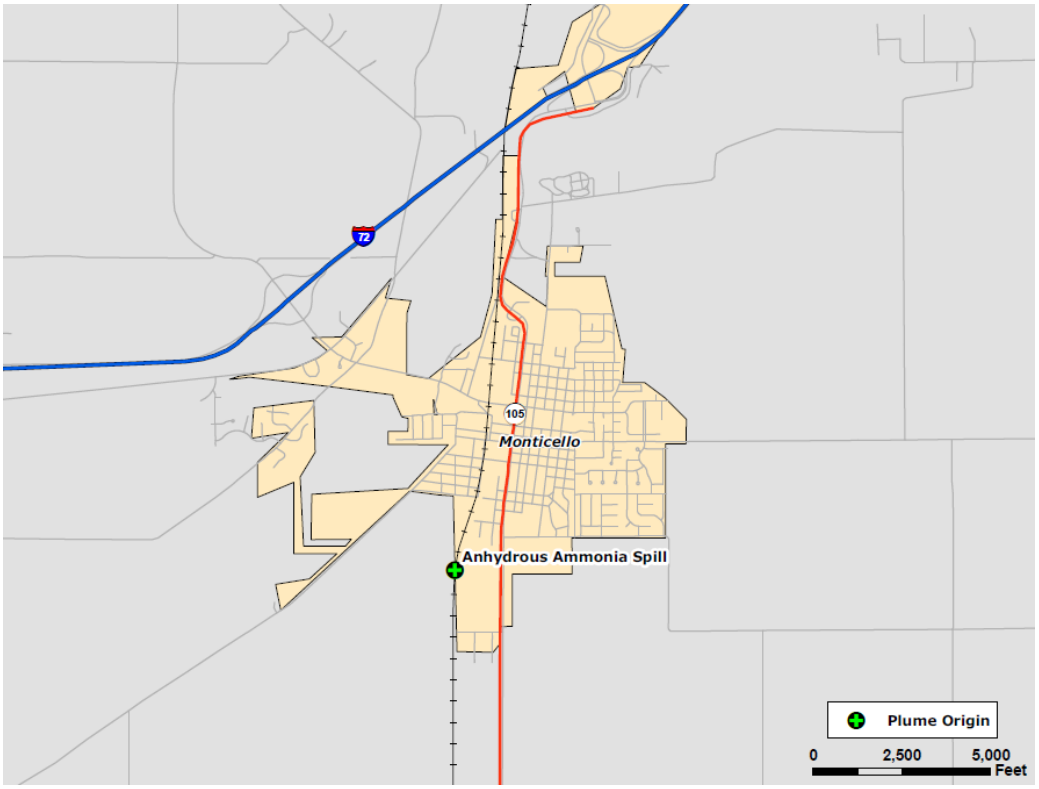
The U.S. EPA's ALOHA (Areal Locations of Hazardous Atmospheres) model was utilized to assess the area of impact for an anhydrous ammonia release at the Norfolk southern railway on the southwest side of Monticello.

Anhydrous ammonia is a clear colorless gas with a strong odor. Contact with the unconfined liquid can cause frostbite. Though the gas is generally regarded as nonflammable, it can burn within certain vapor concentration limits with strong ignition. The fire hazard increases in the presence of oil or other combustible materials. Vapors from an anhydrous ammonia leak initially hug the ground, and prolonged exposure of containers to fire or heat may cause violent rupturing and rocketing. Long-term inhalation of low concentrations of the vapors or short-term inhalation of high concentrations has adverse health effects. Anhydrous ammonia is generally used as a fertilizer, a refrigerant, and in the manufacture of other chemicals.
Source: CAMEO

ALOHA is a computer program designed especially for use by people responding to chemical accidents, as well as for emergency planning and training. Anhydrous ammonia is a common chemical used in industrial operations and farming and can be found in either liquid or gas form. Rail and truck tankers commonly haul anhydrous ammonia to and from facilities.

For this second scenario, moderate atmospheric and climatic conditions with a slight breeze from the west were assumed. The target area was chosen due to its proximity to residential, commercial and critical facility locations. The geographic area covered in this analysis is depicted in Figure 4-24.

Figure 4-24: Location of Chemical Release



Analysis

The ALOHA atmospheric modeling parameters for this scenario, depicted in Figure 4-25, were based upon a westerly wind speed of 5 mph. The temperature was 68°F with 75% humidity and cloud cover is five tenths skies.

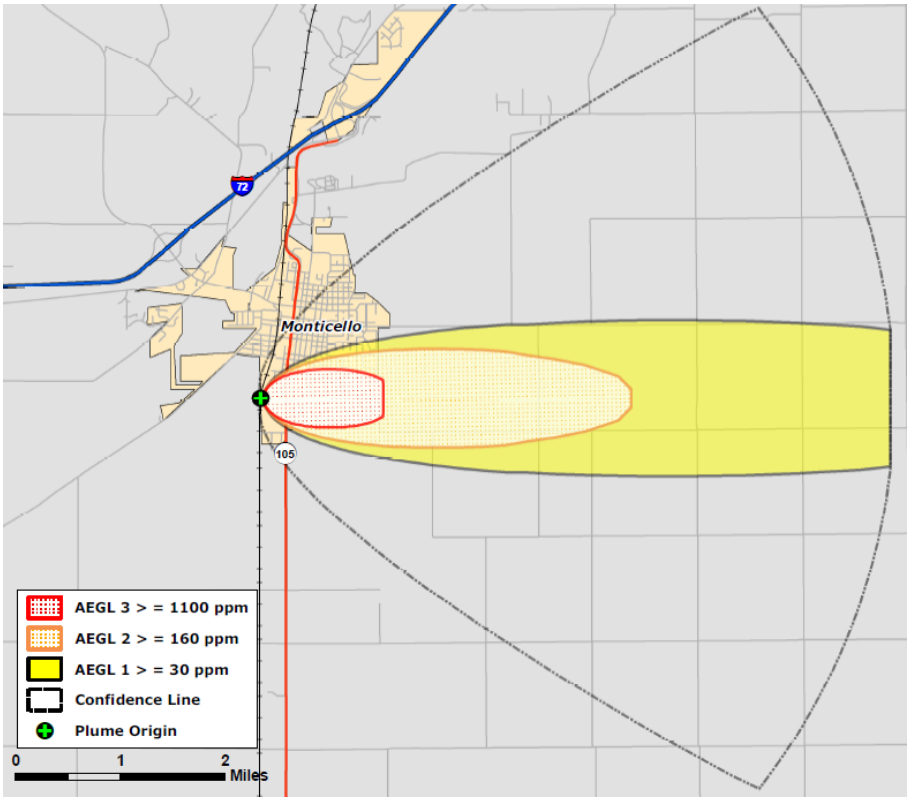
The source of the chemical spill is a horizontal, cylindrical-shaped tank. The diameter of the tank was set to 10 feet and the length set to 53 feet (31,138 gallons). At the time of its release, it was estimated that the tank was 85% full. The anhydrous ammonia in this tank is in its liquid state.

This release was based on a leak from a 2.5 inch-diameter hole, 12 inches above the bottom of the tank. According to the ALOHA parameters, approximately 7,750 pounds of material would be released per minute.

Figure 4-25: ALOHA Plume Modeling Parameters

```
SITE DATA:
  Location: MONTICELLO, ILLINOIS
  Building Air Exchanges Per Hour: 0.34 (sheltered single storied)
  Time: September 8, 2011  0829 hours CDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: AMMONIA                  Molecular Weight: 17.03 g/mol
  AEGL-1(60 min): 30 ppm   AEGL-2(60 min): 160 ppm   AEGL-3(60 min): 1100 ppm
  IDLH: 300 ppm      LEL: 160000 ppm      UEL: 250000 ppm
  Ambient Boiling Point: -29.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 5 knots from W at 10 meters
  Ground Roughness: open country          Cloud Cover: 5 tenths
  Air Temperature: 68° F                  Stability Class: C
  No Inversion Height                     Relative Humidity: 75%

SOURCE STRENGTH:
  Leak from hole in horizontal cylindrical tank
  Flammable chemical escaping from tank (not burning)
  Tank Diameter: 10 feet                  Tank Length: 53 feet
  Tank Volume: 31,138 gallons
  Tank contains liquid                    Internal Temperature: 68° F
  Chemical Mass in Tank: 67.4 tons        Tank is 85% full
  Circular Opening Diameter: 2.5 inches
  Opening is 12 inches from tank bottom
  Release Duration: 38 minutes
  Max Average Sustained Release Rate: 7,750 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 129,408 pounds
  Note: The chemical escaped as a mixture of gas and aerosol (two phase flow).

THREAT ZONE:
  Model Run: Heavy Gas
  Red   : 1.2 miles --- (1100 ppm = AEGL-3(60 min))
  Orange: 3.5 miles --- (160 ppm = AEGL-2(60 min))
  Yellow: greater than 6 miles --- (30 ppm = AEGL-1(60 min))
```

Figure 4-26: ALOHA Plume Footprint Overlaid in ArcGIS

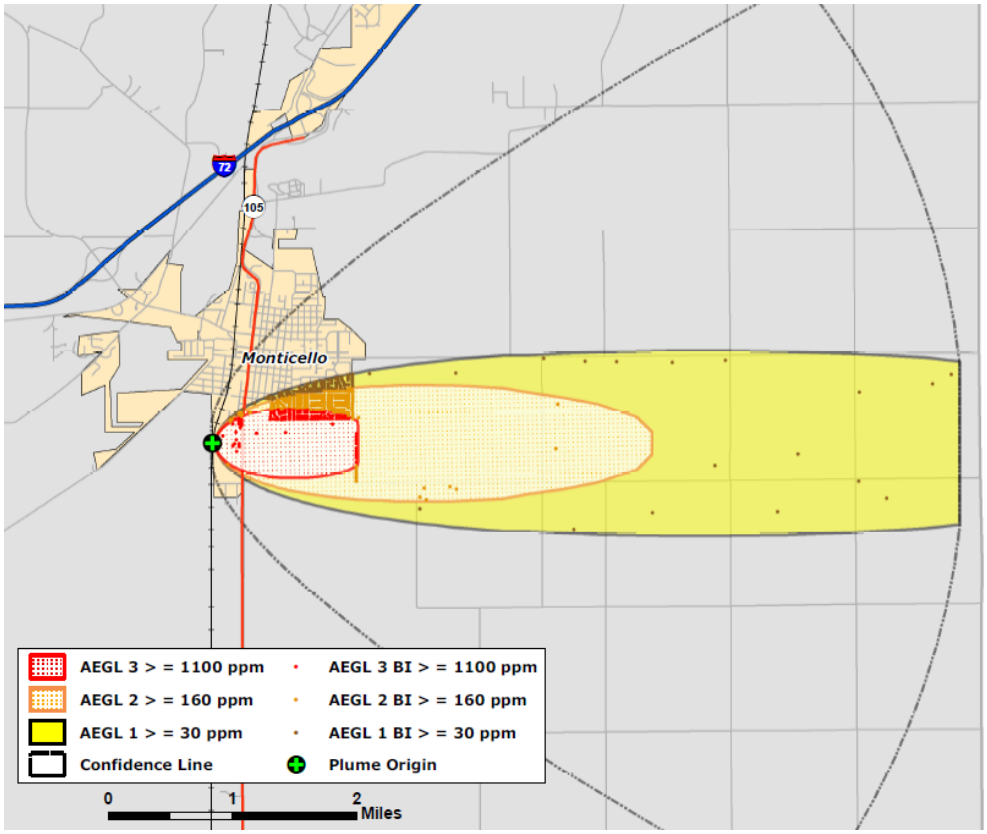


Results

By summing the building inventory within all AEGL exposure levels (Level 3: > = 1100 ppm, Level 2: > = 160 ppm and Level 1: > = 30 ppm.), the GIS overlay analysis predicts that as many as 468 buildings could be exposed at a replacement cost of $19.5 million. The overlay was performed against parcels provided by Piatt County that were joined with Assessor records showing property improvement. If this event were to occur, approximately 1,095 people would be affected.

The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Figure 4-27: Piatt County Building Inventory Classified By Plume Footprint



Building Inventory Damage

The results of the analysis against the building inventory points are depicted in Tables 4-41 through 4-44. Table 4-41 summarizes the results of the chemical spill by combining all AEGL levels. Tables 4-42 through 4-44 summarize the results of the chemical spill for each level separately.

Table 4-41: Estimated Exposure for all AEGL Levels (all ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	1,095	438	$17,860
Commercial	0	10	$1,059
Industrial	0	1	$109
Agriculture	0	12	$551
Religious	0	0	$0
Government	0	7	$0
Education	0	0	$0
Total	**1,095**	**468**	**$19,580**

Table 4-42: Estimated Exposure for AEGL Level 3 (> = 1100 ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	273	109	$4,202
Commercial	0	7	$877
Industrial	0	0	$0
Agriculture	0	1	$101
Religious	0	0	$0
Government	0	3	$0
Education	0	0	$0
Total	**273**	**120**	**$5,181**

Table 4-43: Estimated Exposure for AEGL Level 2 (> = 160 ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	520	208	$7,710
Commercial	0	2	$138
Industrial	0	1	$109
Agriculture	0	2	$114
Religious	0	0	$0
Government	0	3	$0
Education	0	0	$0
Total	**520**	**216**	**$8,071**

Table 4-44: Estimated Exposure for AEGL Level 1 (> = 30 ppm)

Occupancy	Population	Building Counts	Building Exposure (thousands)
Residential	303	121	$5,948
Commercial	0	1	$44
Industrial	0	0	$0
Agriculture	0	9	$336
Religious	0	0	$0
Government	0	1	$0
Education	0	0	$0
Total	**303**	**132**	**$6,329**

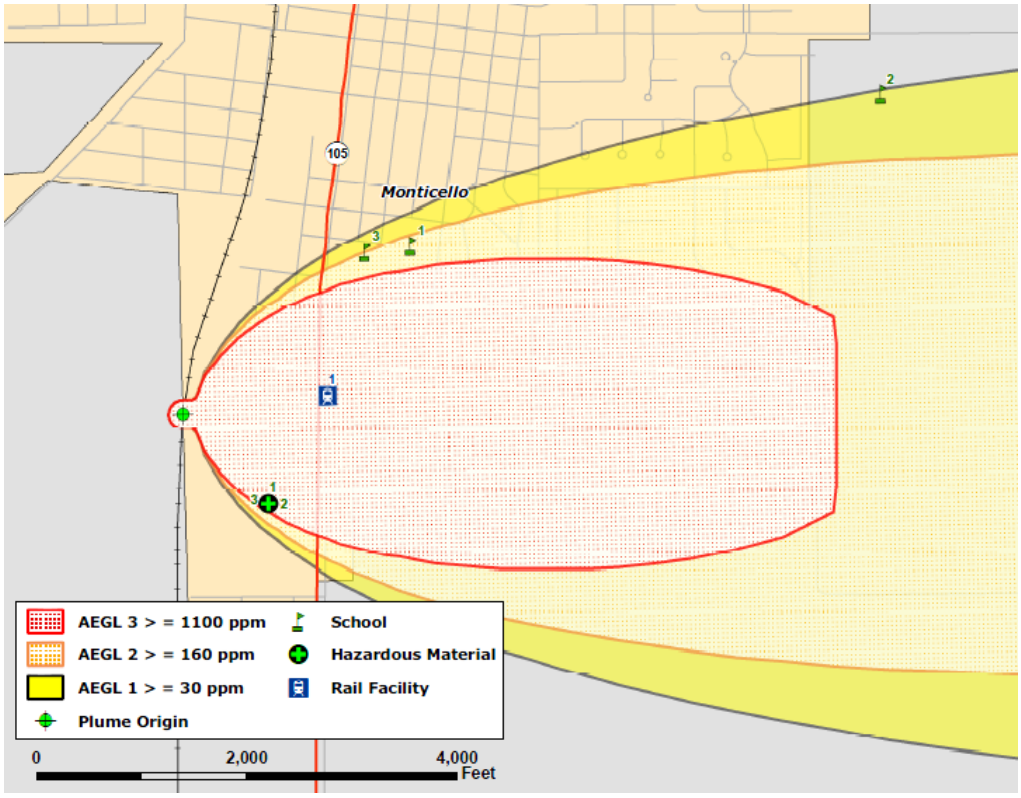
At-Risk Facilities Damage

There are seven critical facilities within the limits of the chemical spill plume. The affected facilities are identified in Table 4-45. Their geographic locations are depicted in Figure 4-28.

Table 4-45: Critical Facilities within Plume Footprint

Facility Type	Facility Name
Essential Facility	Monticello High School
Essential Facility	Monticello Middle School
Essential Facility	Washington School
Critical Facility	BICC General Cable- Monticello 1
Critical Facility	BICC General Cable- Monticello 2
Critical Facility	BICC General Cable- Monticello 3
Critical Facility	Rail Facility, Monticello

Figure 4-28: Critical Facilities within Plume Footprint



Vulnerability to Future Assets/Infrastructure for Hazardous Materials Storage and Transport Hazard

Any new development within the county will be vulnerable to these events, especially development along major roadways.

Analysis of Community Development Trends

Because the hazardous material hazard events may occur anywhere within the county, future development will be impacted. The major transportation routes and the industries located in Piatt County pose a threat of dangerous chemicals and hazardous materials release.

4.4.9 Fire Hazard

Hazard Definition for Fire Hazard

This plan will address three major categories of fires for Piatt County: 1) structural fires; 2) wild land fires; and 3) other fires. A structural fire is any fire involving an assembly of materials for occupancy or use to serve a specific purpose. This includes buildings, open platforms, bridges, or roof assemblies over open storage or process areas. A wild land fire involves vegetative fuels and occurs in the wild or urban-wild land interface areas. The "other" category includes vehicle fires, trash or rubbish fires, and outside gas or vapor combustion.

Structural Fires

Lightning strikes, poor building construction, and building condition are the main causes for most structural fires in Illinois. Piatt County has a few structural fires each year countywide.

Wildfires

When hot and dry conditions develop, forests may become vulnerable to devastating wildfires. In the past few decades an increased commercial and residential development near forested areas has dramatically changed the nature and scope of the wildfire hazard. In addition, the increase in structures resulting from new development strains the effectiveness of the fire service personnel in the county.

Other Fires

Other fires in Piatt County include vehicle fires, dumpster fires, and the burning of rubbish (e.g., house hold trash, construction debris, tires, or old railroad ties).

Tire Fires

The state of Illinois generates thousands of scrap tires annually. Many of those scrap tires end up in approved storage sites that are carefully regulated and controlled by federal and state officials. However, scrap tires are sometimes intentionally dumped in unapproved locations throughout the

state. The number of unapproved locations cannot be readily determined. These illegal sites are owned by private residents who have been continually dumping waste and refuse, including scrap tires, at those locations for many years.

Tire disposal sites can be fire hazards, in large part because of the enormous number of scrap tires typically present at one site. This large amount of fuel renders standard firefighting practices nearly useless. Flowing and burning oil released by the scrap tires can spread the fire to adjacent areas. Tire fires differ from conventional fires in the following ways:

- Relatively small tire fires can require significant fire resources to control and extinguish.
- Those resources often cost much more than the Piatt County government can absorb compared to standard fire responses.
- There may be significant environmental consequences of a major tire fire. Extreme heat can convert a standard vehicle tire into approximately two gallons of oily residue that may leak into the soil or migrate to streams and waterways.

Previous Occurrences for Fire Hazard

The Illinois State Fire Marshal Office reports $413,177,608 in fire related damages in 2010. Piatt County has not experienced a significant or large-scale explosion at a fixed site or transportation route that has resulted in multiple deaths or serious injuries.

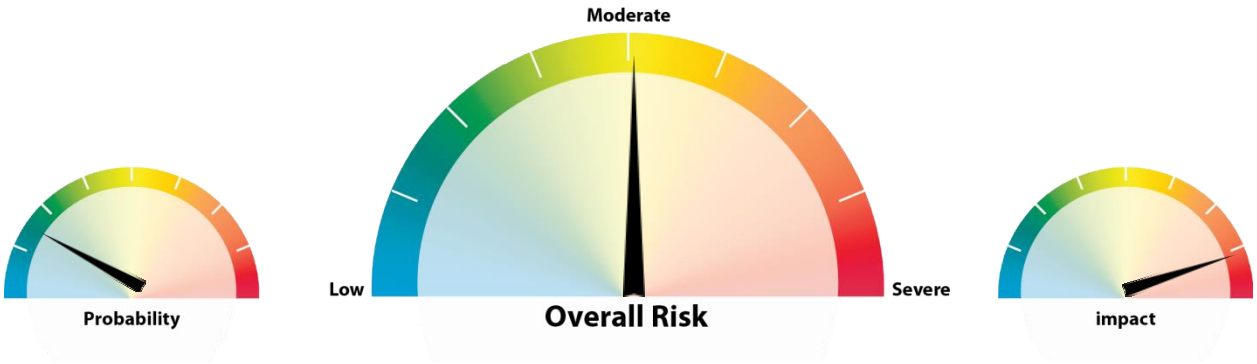
Geographic Location for Fire Hazard

Fire hazards occur countywide and therefore affect the entire county. The heavily forested areas in the county have a higher chance of widespread fire hazard.

Hazard Extent for Fire Hazard

The extent of the fire hazard varies both in terms of the severity of the fire and the type of material being ignited. All communities in Piatt County are affected by fire equally.

Risk Identification for Fire Hazard



Based on historical information, the probability of a fire is low. In Meeting #2, the planning team determined that the potential impact of a fire is significant; therefore, the overall risk of a fire hazard for Piatt County is moderate.

Vulnerability Analysis for Fire Hazard

This hazard impacts the entire jurisdiction equally; therefore, the entire population and all buildings within the county are vulnerable to fires and can expect the same impacts within the affected area.

Table 4-5 lists the types and numbers of all essential facilities in the area. Critical facilities and their locations are included in Appendix E.

The building exposure for Piatt County, as determined from the building inventory, is included in Table 4-6. Because of the difficulty predicting which communities are at risk, the entire population and all buildings have been identified at risk.

At-Risk Facilities

Essential and critical facilities and community assets are vulnerable to fire hazards. These facilities will encounter many of the same impacts as any other building within the jurisdiction. The impact may include structural damage from fire and water damage from efforts extinguishing fire. Table 4-5 lists the types and numbers of essential facilities in the area. Additional facility information is included in Appendix E.

Facility Categories

Essential: Core critical facilities; includes schools, fire departments, police departments, EOCs, and care facilities

Critical: Economically/socially viable facilities

Community Assets: Other important county facilities

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is provided in Table 4-6. Impacts to the general buildings within the county are similar to the damages expected to the essential or critical facilities. These impacts include structural damage from fire and water damage from efforts to extinguish the fire.

Infrastructure

During a fire the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these items could become damaged during a fire. Potential impacts include structural damage resulting in impassable roadways and power outages.

Vulnerability to Future Assets/Infrastructure for Fire Hazard

Any future development will be vulnerable to these events.

Analysis of Community Development Trends

Fire hazard events may occur anywhere within the county, because of this future development will be impacted.

Section 5 – Mitigation Strategy

The goal of mitigation is to reduce the future impacts of a hazard including property damage, disruption to local and regional economies, and the amount of public and private funds spent to assist with recovery. The goal of mitigation is to build disaster-resistant communities. Mitigation actions and projects should be based on a well-constructed risk assessment, provided in Section 4 of this plan. Mitigation should be an ongoing process adapting over time to accommodate a community's needs.

5.1 Community Capability Assessment

The capability assessment identifies current activities used to mitigate hazards. The capability assessment identifies the policies, regulations, procedures, programs, and projects that contribute to the lessening of disaster damages. The assessment also provides an evaluation of these capabilities to determine whether the activities can be improved in order to more effectively reduce the impact of future hazards. The following sections identify existing plans and mitigation capabilities within all of the communities listed in Section 2 of this plan.

5.1.1 National Flood Insurance Program (NFIP)

Piatt County, Atwood, Monticello, and Mansfield are members of the NFIP. Hazus-MH identified approximately 205 households located within the Piatt County Special Flood Hazard Area; 42 households paid flood insurance, insuring $7,796,100 in property value. The total premiums collected amounted to $27,523, which on average was $652 annually. As of November 30, 2007, five claims were filed totaling $3,579. The average claim was $716.

The county and incorporated areas do not participate in the NFIP'S Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: 1) reduce flood losses; 2) facilitate accurate insurance rating; and 3) promote the awareness of flood insurance.

Table 5-1 identifies each community and the date each participant joined the NFIP.

Table 5-1: Additional Information on Communities Participating in the NFIP

Community	Participation Date	FIRM Date	CRS Date	CRS Rating	Floodplain Zoning Ordinance Adopted Last
Piatt County	1/31/75	9/01/86	N/A	N/A	N/A
Atwood	11/23/73	12/31/82	N/A	N/A	N/A
Mansfield	1/03/75	6/16/11	N/A	N/A	N/A
Monticello	12/17/73	5/15/91	N/A	N/A	N/A
Cisco	N/A	N/A	N/A	N/A	N/A

5.1.3 Zoning Management Ordinance

Zoning codes or ordinances control growth and building in various areas such as floodplains and hazardous operations in populace areas. The 2010 Piatt County Comprehensive Plan addresses the existing land use for seven of the eight incorporated jurisdictions; these are found in Appendix D of this plan. Monticello updated its own comprehensive plan in 1998. Recent commercial land use growth has been primarily located within the municipal limits of Monticello.

Table 5-2: Description of Zoning Plans/Ordinances

Community	Comp Plan	Zoning Ord	Subd Control Ord	Erosion Control	Storm Water Mgmt	Burning Ord	Bldg. Stndrds
Piatt County	2010	2009	08/2008	05/1998	05/1998	2003	State
Atwood	2010	2007	09/2008	N/A	N/A	08/2004	State
Bement	2010	1981	10/2008	N/A	N/A	N/A	State
Cerro Gordo	2010	1995	08/2008	N/A	N/A	N/A	State
Cisco	2010	1994	08/2008	N/A	N/A	N/A	State
Deland	2010	1975	09/2008	N/A	N/A	N/A	State
Hammond	2010	N/A	09/2008	N/A	N/A	N/A	State
Mansfield	2010	1980	N/A	N/A	N/A	N/A	State
Monticello	1998*	2007	1998	N/A	N/A	N/A	State

**Monticello is not included in the 2010 Piatt County Comprehensive Plan because it maintains a separate plan.*

5.1.4 Erosion Management Program/ Policy

The Piatt County Stream Bank Stabilization and Restoration Program works throughout the county to encourage low cost bio engineering techniques for stabilizing stream banks.

5.1.5 Fire Insurance Rating Programs/ Policy

Table 5-3 lists Piatt County's fire departments and respective information. Note, many smaller fire departments have a dual ISO rating. The first number represents those areas inside a five mile radius of the station. The second number represents the ISO rating for areas covered outside the five mile radius.

Table 5-3: Piatt County Fire Departments, Ratings, and Number of Firefighters

Fire Department	Fire Insurance Rating	Number of Firefighters
Atwood Volunteer Fire Department	5/9	30
Bement Volunteer Fire Department	9/10	20
Cerro Gordo Volunteer Fire Department	6/9	30
Cisco Volunteer Fire Department	9/10	28
Deland Volunteer Fire Department	7/9	20
Hammond Volunteer Fire Department	7/9	20
Mid-Piatt Volunteer Fire Department	6/9	30
Monticello Volunteer Fire Department	5	20
Northern Piatt Volunteer Fire Department	6/9	15

5.1.6 Land Use Plan

Included in the 2010 Piatt County Comprehensive Plan is an individual land use plan for each incorporated community. Appendix D provides documentation on the existing land use for each jurisdiction.

5.1.7 Building Codes

Table 5-2 identifies the building standards adopted within the county. Piatt County uses the Piatt County, Illinois Zoning Ordinances and the 'Illinois State Building Code' as their guide for local building standards.

5.2 Mitigation Goals

In Section 4 of this plan, the risk assessment identified Piatt County as prone to eight hazards. The MHMP planning team members understand that although hazards cannot be eliminated altogether, Piatt County can work toward building disaster-resistant communities. Following are a list of goals, objectives, and actions. The goals represent long-term, broad visions of the overall vision the county would like to achieve for mitigation. The objectives are strategies and steps that will assist the communities in attaining the listed goals.

Goal 1: Lessen the impacts of hazards to new and existing infrastructure

(a) Objective: Retrofit critical facilities and structures with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.

(b) Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.

(c) Objective: Minimize the amount of infrastructure exposed to hazards.

(d) Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the community.

(e) Objective: Improve emergency sheltering in the community.

Goal 2: Create new or revise existing plans/maps for the community

(a) Objective: Support compliance with the NFIP.

(b) Objective: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.

(c) Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.

Goal 3: Develop long-term strategies to educate community residents on the hazards affecting their county

(a) Objective: Raise public awareness on hazard mitigation.

(b) Objective: Improve education and training of emergency personnel and public officials.

5.3 Mitigation Actions/Projects

Upon completion of the risk assessment and development of the goals and objectives, the planning committee was provided a list of the six mitigation measure categories from the *FEMA State and Local Mitigation Planning How to Guides*. The measures are listed as follows:

- **Prevention:** Government, administrative, or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and storm water management regulations.

- **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or removal from the hazard area. Examples include acquisition, elevation, structural retrofits, storm shutters, and shatter-resistant glass.

- **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

- **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

- **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.

- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

After Meeting #3, held September 14, 2011, MHMP members were presented with the task of individually listing potential mitigation activities using the FEMA evaluation criteria. The MHMP members brought their mitigation ideas to Meeting #4 which was held November 16, 2011. The evaluation criteria (STAPLE+E) involved the following categories and questions.

Social:

- Will the proposed action adversely affect one segment of the population?
- Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

Technical:

- How effective is the action in avoiding or reducing future losses?
- Will it create more problems than it solves?
- Does it solve the problem or only a symptom?
- Does the mitigation strategy address continued compliance with the NFIP?

Administrative:

- Does the jurisdiction have the capability (staff, technical experts, and/or funding) to implement the action, or can it be readily obtained?
- Can the community provide the necessary maintenance?
- Can it be accomplished in a timely manner?

Political:

- Is there political support to implement and maintain this action?
- Is there a local champion willing to help see the action to completion?
- Is there enough public support to ensure the success of the action?
- How can the mitigation objectives be accomplished at the lowest cost to the public?

Legal:

- Does the community have the authority to implement the proposed action?
- Are the proper laws, ordinances, and resolution in place to implement the action?
- Are there any potential legal consequences?
- Is there any potential community liability?
- Is the action likely to be challenged by those who may be negatively affected?
- Does the mitigation strategy address continued compliance with the NFIP?

Economic:

- Are there currently sources of funds that can be used to implement the action?
- What benefits will the action provide?
- Does the cost seem reasonable for the size of the problem and likely benefits?
- What burden will be placed on the tax base or local economy to implement this action?
- Does the action contribute to other community economic goals such as capital improvements or economic development?
- What proposed actions should be considered but be "tabled" for implementation until outside sources of funding are available?

Environmental:

- How will this action affect the environment (land, water, endangered species)?
- Will this action comply with local, state, and federal environmental laws and regulations?
- Is the action consistent with community environmental goals?

5.4 Implementation Strategy and Analysis of Mitigation Projects

Implementation of the mitigation plan is critical to the overall success of the mitigation planning process. The first step is to decide, based upon many factors, which action will be undertaken first. In order to pursue the top priority first, an analysis and prioritization of the actions is important. Some actions may occur before the top priority due to financial, engineering, environmental, permitting, and site control issues. Public awareness and input of these mitigation actions can increase knowledge to capitalize on funding opportunities and monitoring the progress of an action.

In Meeting #4, the planning team prioritized mitigation actions based on a number of factors. A rating of high, medium, or low was assessed for each mitigation item and is listed next to each item in Table 5-5. The factors were the STAPLE+E (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria listed in Table 5-4.

Table 5-4: STAPLE+E planning factors

S – Social	Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the community's social and cultural values.
T – Technical	Mitigation actions are technically most effective if they provide a long-term reduction of losses and have minimal secondary adverse impacts.
A – Administrative	Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.
P – Political	Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support for the action.
L – Legal	It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.
E – Economic	Budget constraints can significantly deter the implementation of mitigation actions. Hence, it is important to evaluate whether an action is cost-effective, as determined by a cost benefit review, and possible to fund.
E – Environmental	Sustainable mitigation actions that do not have an adverse effect on the environment, comply with federal, state, and local environmental regulations, and are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound.

For each mitigation action related to infrastructure, new and existing infrastructure was considered. Additionally, the mitigation strategies address continued compliance with the NFIP. While an official cost benefit review was not conducted for any of the mitigation actions, the estimated costs were discussed. The overall benefits were considered when prioritizing mitigation items from high to low. An official cost benefit review will be conducted prior to the implementations of any mitigation actions. Table 5-5 presents mitigation projects developed by the planning committee, as well as actions that are ongoing or already completed. Since this is the first mitigation plan developed for Piatt County, there are no deleted or deferred mitigation items.

Table 5-5: Mitigation Strategies

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Distribute weather radios to residents in mobile homes, nursing homes, and assisted living facilities	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Tornado, Thunderstorm, Flood, Earthquake, Drought, Winter Storm, Subsidence	Piatt County	Completed	The county EMA has distributed weather radios.
Elevate bridges that flood frequently	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Flood, Thunderstorm	Piatt County	Completed	The county has worked with ILDOT to modify the county bridges that historically flood
Using CREP resources, address flooding issues to 400 identified acres in Piatt County	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Flood	Piatt County	Completed	The county has worked with CREP to address flooding issues.
Develop county ordinances requiring subdivision to have retention ponds and ditches.	**Goal:** Create new or revise existing plans/maps for the community **Objective:** Review and update existing community plans and ordinances to support hazard mitigation.	Flood, Thunderstorm	Piatt County	Completed	The county has implemented ordinances to protect residential areas from flooding. Additional effort will be exerted to maintain them and enforce these ordinances to regulate development within the floodplain.
Implement Blackboard Connect to improve emergency communications	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Thunderstorm, Flood, Earthquake, Drought, Winter Storm, Hazmat, Fire	Piatt County, Bement	Completed	The county has implemented Blackboard Connect to ensure effective communication to protect residents in the event of an emergency.
Modify the Livingston Center for use as a shelter	**Goal**: Lessen the impacts of hazards to new and existing infrastructure **Objective**: Retrofit critical facilities with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.	Tornado, Flood, Earthquake, Drought, Winter Storm, Hazmat, Fire	Monticello	In Progress	The county is in the process of retro-fitting the Livingston Center to provide an emergency shelter.
Develop a multi-county program to purchase and train on the use of a grain elevator rescue tube	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Hazmat	Piatt County	In Progress	Piatt County, along with the surrounding jurisdictions, is part of a communal effort to purchase a grain elevator rescue tube. Fire departments and first responders will need training on the use of these devices. The Communities of Monticello and Deland currently have grain elevator rescue.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Develop a coordination plan for evacuation	**Goal:** Develop long-term strategies to educate Piatt County residents on the hazards affecting their county **Objective:** Raise public awareness on hazard mitigation.	Hazmat	Piatt County	High	The county EMA will oversee the implementation of this project. Local resources will be used to help coordinate all jurisdictions. Implementation is forecasted to begin within one year.
Trim trees to minimize the amount/duration of power outages	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Winter Storm	Piatt County	High	The County EMA will coordinate a team to work with utility companies to address this strategy. Funding may come from community grants or local resources. If funding and resources are available, implementation will begin within one year.
Clear debris from ponds, waterways, and lower ditches to improve water flow	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Flood, Thunderstorm, Winter Storm	Mansfield, Hammond	High	The County EMA will oversee this project. Funding will be sought from state agencies such as IEMA and IDNR. If funding is available, implementation will begin in one year.
Repair and maintain storm sewer systems in Pierson Station	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Flood, Thunderstorm	Piatt County	High	The county will seek funding from the state to coordinate with the EPA and effectively implement this project. Funding has not been secured as of 2011, but Implementation will begin within one year.
Coordinate local agencies to develop a database of special needs populations	**Goal:** Create new or revise existing plans/maps for the community **Objective:** Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Drought, Hazmat, Fire	Piatt County	High	The county EMA, along with local resources, will coordinate the development of this county-wide database. Implementation will begin within one year.
Install inertial valves in county buildings	**Goal**: Lessen the impacts of hazards to new and existing infrastructure **Objective**: Retrofit critical facilities with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.	Earthquake	Piatt County, Monticello	Medium	The County EMA will oversee implementation of this project and determine which facilities do not currently have inertial valves. Funding has not been secured as of 2011, but the PDM program and community grants are an option. If funding is available, implementation will begin within three years.
Conduct a study to identify the potential buy-out homes that flood frequently.	**Goal:** Create new or revise existing plans/maps for Piatt County **Objective:** Support compliance with the NFIP for each jurisdiction in Piatt County.	Flood	Piatt County	Medium	The county EMA oversees the implementation of the project. Funding has not been secured as of 2011 but will be sought from funding sources such as IEMA. Implementation, if funding is available, is forecasted to begin within three years.
Build a shallow retention pond along the railroad tracks in Melmine	**Goal**: Lessen the impacts of hazards to new and existing infrastructure **Objective**: Minimize the amount of infrastructure exposed to hazards.	Flood, Thunderstorm, Winter Storm	Piatt County	Medium	The EMA director will work with local officials to oversee this project. Funding has not been secured as of 2011, but USDA grants are an option. If funding is available, implementation will begin within three years.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Conduct a flow allocation study for rail and road transportation	**Goal:** Create new or revise existing plans/maps for Piatt County **Objective:** Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Hazmat	Piatt County	Medium	The county EMA will work with local government leaders, county highway department, and railroad companies to coordinate this project. Funding will be sought from ILDOT, IEMA, and local sources. Implementation, if funding is available, will begin within three years.
Install warning sirens in Pierson Station and La Place and develop a plan for ongoing maintenance of these sirens	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Thunderstorm, Fire	Piatt County, Bement	Medium	The EMA director will oversee this project and seek state or federal funding. If funding is available, implementation will begin within three years.
Enforce existing floodplain ordinances to protect new infrastructure	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Flood	Piatt County, Atwood, Bement, Cerro Gordo, Cisco, Deland Hammond, Mansfield, Monticello	Medium	The county EMA will oversee the implementation of this project. Local resources will be used to continue enforcement. Implementation is forecasted to begin within three years.
Conduct a study to identify high water areas for culverts/ditches	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Flood	Deland	Medium	The County will work with the local highway department to implement this project. Funding as not been secured as of 2011but the county will seek state and federal grants. Implementation, if funding is available, will begin within three years.
Develop mutual aid agreements using Mutual Aid Box Alarm System (MABAS)	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Hazmat, Fire, Subsidence	Piatt County	Medium	The county EMA will oversee the implementation of this project. Local resources will be used to help coordinate all jurisdictions. Implementation is forecasted to begin within three years.
Encourage all communities to participate in the NFIP through public education	**Goal:** Create new or revise existing plans/maps for the community Objective: Support compliance with the NFIP for each jurisdiction.	Flood, Thunderstorm	Atwood, Bement, Cerro Gordo, Cisco, Hammond	Medium	Although the county is not typically at risk of severe flooding, the County EMA will establish a team to educate the public on the benefits of joining the NFIP. FEMA may be approached for funding for educational materials. If funding and resources are available, implementation will begin within three years.
Develop capacity for local hazmat response and recovery training for first responders.	**Goal:** Develop long-term strategies to educate Pike County residents on the hazards affecting their county **Objective:** Improve education and training of emergency personnel and public officials	Hazmat	Piatt County, Atwood, Bement, Cerro Gordo, Cisco, Deland Hammond, Mansfield, Monticello	Medium	The county EMA will coordinate with private entities (corporations and individuals) for equipment and expertise. Local resources or community grants will be used for funding and to research training opportunities. If funding and resources are available, implementation will begin within three years.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Institute Nixle	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Hazmat, Fire	Piatt County	Low	The county EMA will oversee the implementation of this project. Local resources will be used to maintain the system. Funding for implementation will be sought from state and federal agencies. Implementation, if funding is available, is forecasted to begin within five years.
Develop a public education program to discuss the importance of tie downs for manufactured homes and local shelter information	**Goal:** Develop long-term strategies to educate Pike County residents on the hazards affecting their county **Objective:** Raise public awareness on hazard mitigation.	Tornado, Thunderstorm, Flood, Earthquake, Drought, Winter Storm, Hazmat, Subsidence, Fire	Piatt County	Low	The county EMA will oversee this project and seek federal funding. Local resources will be used to develop educational literature and present to each jurisdiction at public events. If resources are available, the project will be implemented within five years.
Develop a public education program for schools to discuss the impact of hazards, in particular earthquakes	**Goal:** Develop long-term strategies to educate Piatt County residents on the hazards affecting their county **Objective:** Raise public awareness on hazard mitigation.	Earthquake	Piatt County	Low	The county EMA will oversee this project. Local resources will be used to develop educational literature and present to each jurisdiction at public events. If resources are available, the project will be implemented within five years.
Implement clean-up of brownfield sites to encourage redevelopment and reuse of contaminated property	**Goal:** Lessen the impacts of hazards to new and existing infrastructure **Objective:** Minimize the amount of infrastructure exposed to hazards.	Hazmat	Cerro Gordo, Cisco	Low	The county will work with the EPA to expedite the cleanup and redevelopment of brownfield sites. If resources are available, the project will be implemented within five years.
Educate the public on the dangers of anhydrous ammonia	**Goal:** Develop long-term strategies to educate Piatt County residents on the hazards affecting their county **Objective:** Raise public awareness on hazard mitigation.	Hazmat	Piatt County	Low	The county EMA will oversee this project. Local resources will be used to develop educational literature and present to each jurisdiction at public events. If resources are available, the project will be implemented within five years.
Encourage county-wide participation in the annual Shake-Out Drill	**Goal:** Develop long-term strategies to educate Piatt County residents on the hazards affecting their county **Objective:** Raise public awareness on hazard mitigation.	Earthquake	Piatt County	Low	The county EMA will oversee this project. Local resources will be used to develop educational literature and present to each jurisdiction at public events. If resources are available, the project will be implemented within five years.

The Piatt County Emergency Management will be the local champions for these mitigation actions. The Piatt County Commissioners and the city and town councils will be an integral part of the implementation process. Federal and state assistance will be necessary for a number of the identified actions.

5.5 Multi-Jurisdictional Mitigation Strategy

As a part of the multi-hazard mitigation planning requirements, at least two identifiable mitigation action items have been addressed for each hazard listed in the risk assessment and for each jurisdiction covered under this plan. Although they have chosen to actively participate in the Douglas County, Illinois plan, the Village of Atwood attended, and participated in, the Piatt County mitigation meetings.

Each of the eight incorporated communities within Piatt County was invited to participate in brainstorming sessions in which goals, objectives, and strategies were discussed and prioritized. Each participant in these sessions was armed with possible mitigation goals and strategies provided by FEMA, as well as information about mitigation projects discussed in neighboring communities and counties. All potential strategies and goals that arose through this process are included in this plan. The county planning team used FEMA's evaluation criteria to gauge the priority of all items. A final draft of the disaster mitigation plan was presented to all members to allow for final edits and approval of the priorities.

Section 6 – Plan Maintenance

6.1 Monitoring, Evaluating, and Updating the Plan

Throughout the five-year planning cycle, the Piatt County Emergency Management Agency will reconvene the MHMP planning committee to monitor, evaluate, and update the plan on an annual basis. Additionally, a meeting will be held during November, 2016 to address the next five-year update of this plan. Members of the planning committee are readily available to engage in email correspondence between annual meetings. If the need for a special meeting, due to new developments or a declared disaster occurs in the county, the team will meet to update mitigation strategies. Depending on grant opportunities and fiscal resources, mitigation projects may be implemented independently by individual communities or through local partnerships.

The committee will review the county goals and objectives to determine their relevance to changing situations in the county. In addition, state and federal policies will be reviewed to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various implementation actions will report on the status of their projects, and will include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies should be revised.

Updates or modifications to the MHMP during the five-year planning process will require a public notice and a meeting prior to submitting revisions to the individual jurisdictions for approval. The plan will be updated via written changes, submissions as the committee deems appropriate and necessary, and as approved by the county commissioners.

The GIS data used to prepare the plan was obtained from existing county GIS data as well as data collected as part of the planning process. This updated Hazus-MH GIS data has been returned to the county for use and maintenance in the county's system. As newer data becomes available, this updated data will be used for future risk assessments and vulnerability analyses.

6.2 Implementation through Existing Programs

The results of this plan will be incorporated into ongoing planning efforts since many of the mitigation projects identified as part of this planning process are ongoing. Piatt County and its incorporated jurisdictions will update the zoning plans and ordinances listed in Table 5-2 as necessary and as part of regularly scheduled updates. Each community will be responsible for updating its own plans and ordinances.

6.3 Continued Public Involvement

Continued public involvement is critical to the successful implementation of the MHMP. Comments from the public on the MHMP will be received by the EMA director and forwarded to the MHMP planning committee for discussion. Education efforts for hazard mitigation will be ongoing through the EMA. The public will be notified of periodic planning meetings through notices in the local newspaper. Once adopted, a copy of this plan will be maintained in the County EMA Office.

Glossary of Terms

A

AEGL – Acute Exposure Guideline Levels
ALOHA – Areal Locations of Hazardous Atmospheres

B

BFE – Base Flood Elevation

C

CEMA – County Emergency Management Agency
CEMP – Comprehensive Emergency Management Plan
CRS – Community Rating System

D

DEM – Digital Elevation Model
DFIRM – Digital Flood Insurance Rate Map
DMA – Disaster Mitigation Act

E

EAP – Emergency Action Plan
EMA – Emergency Management Agency

F

FEMA – Federal Emergency Management Agency
FIRM – Flood Insurance Rate Maps

G

GIS – Geographic Information System

H

Hazus-MH – **Ha**zards **US**A **M**ulti-**H**azard
HUC – Hydrologic Unit Code

I

IDNR – Illinois Department of Natural Resources
ISGS – Illinois State Geological Survey

M

MHMP – Multi-Hazard Mitigation Plan

N

NCDC – National Climatic Data Center
NRCS – Natural Resources Conservation Service
NEHRP – National Earthquake Hazards Reduction Program
NFIP – National Flood Insurance Program
NOAA – National Oceanic and Atmospheric Administration

P

PPM – Parts Per Million

S

SPC – Storm Prediction Center

U

USGS – United States Geological Survey

Appendix A: Minutes of the Multi-Hazard Mitigation Planning Team Meetings

Pre-Disaster Hazard Mitigation Plan Meeting
Piatt County, IL
1st Meeting
June 01, 2011

On 6-1-2011, the first MHMP meeting was held at the Fire Station at 211 N Hamilton, in Monticello, Illinois. Attending were:

Attendees	Contact Info	Jurisdiction Represented
Jonathon Manuel	Jonathon.Manuel@il.nacdnet.net	Mansfield/Blue Ridge
Jim Donaldson	pcema2010@yahoo.com	Piatt County
Darrell Bush	dfb@mchs1.com	Deland
John Buechler	jobuech@iupui.edu	Polis Center
Chris Schmitz	schmitzc@yahoo.com	Polis Center
Giedrius Kaveckis	giedkave@iupui.edu	Polis Center

Staff members from The Polis Center at IUPUI were present to give an overview of the development of the plan. A Power Point was presented to discuss the overall objective and the planning process for the Piatt County Pre-Disaster Mitigation Plan. The idea of the plan is to be able to apply for FEMA Hazard Mitigation funds. The only way to be eligible for funding is to have an approved PDMP in place.

The planning process involves:

1. Piatt County PDMP team will need to provide details of major facilities in the county:
    - Fire Stations
    - Police Stations
    - Schools
    - Nursing Homes/Care Facilities
    - Emergency Operations Centers
    - Additional essential facilities
2. Team will identify and detail hazards to be modeled by Polis, including the effects of:
    - Earthquakes
    - Floods
    - Storms
    - Tornados
    - Chemical spills
    - Other specified disasters
3. Meetings
    - A total of five to six meetings
    - One must be public meeting (usually meeting #3)
    - Meeting 4 will involve discussion of specific mitigation policies
    - Meeting 5 will include approval of the draft plan

4. “Match dollars” will be provided for the time team members spend on the planning process. Team was advised to track all time spent on this plan.
5. Each incorporated community in Piatt County must participate in the plan process and attend a minimum of two meetings.

The next meeting date was set for July 13, 2011 at 3:00PM in the same location.

Pre-Disaster Hazard Mitigation Plan Meeting
Piatt County, IL
2nd Meeting
July 13, 2011

On 7-13-2011, the second MHMP meeting was held at the Livingston Center, Monticello, Illinois. Attending were:

Attendees	Contact Info	Jurisdiction Represented
Ron Rochyby	ronrochyby@gmail.com	Mid-Piatt Fire PD
Jonathon Manuel	Jonathon.Manuel@il.nacdnet.net	Mansfield/Blue Ridge
Jim Donaldson	pcema2010@yahoo.com	Piatt County
Chris Corrie	Mayor @cityofmonticello.com	Monticello
Dave Coats	decoats@iupui.edu	Polis Center
Chris Schmitz	schmitzc@yahoo.com	Polis Center

The Polis Center had gathered information from the National Climatic Data Center regarding the historical hazards in Piatt County. This data was presented in a Power Point presentation and showed the following hazards: tornadoes, floods, dam/levee failures, earthquakes, thunder storms, winter storms, drought, HAZMAT, and fires.
The Polis Center staff reviewed the probability of each hazard based on the historical data, the team members discussed the local impact of each hazard, and then determined the risk of each hazard.

The committee then reviewed the map of historical hazards in Piatt County and decided what type of hazards should be modeled by Polis. Polis staff agreed to model three hazmat spills and two tornados.

Members of the committee were asked to bring in news articles/photos of past floods, storms, hazardous materials release, etc… These will be a part of the Piatt County Multi-Hazard Mitigation Plan.

The next meeting date was set for September 14, 2011 at 7:00PM in the Livingston Center in Monticello, IL. This will be a public meeting and will need to be announced on local radio and newspaper.

Pre-Disaster Hazard Mitigation Plan Meeting
Piatt County, IL
3rd Meeting
September 14, 2011

Attendees	Contact Info	Jurisdiction Represented
Ron Rochyby	ronrochyby@gmail.com	Mid-Piatt Fire PD
Jim Donaldson	pcema2010@yahoo.com	Piatt County
Darrell Bush	dfb@mchs1.com	Deland
James Mudd	Cerro Gordo EMA/PD	Cerro Gordo
Shane Hector	Cerro Gordo Fire Department	Cerro Gordo
Ron Weishaar	Cisco Fire Department	Cisco
Chris Corrie	mayor@cityofmonticello.org	Monticello
Tom Keagle	Kirby Ambulance	Monticello
Dave Coats	Polis Center Indianapolis	Polis
Jonathan Remo	Souther Illinois University	SIU Carbondale

The Polis Center opened the meeting and introduced new attendees. Draft copies of Section 4 of the Piatt County Multi-Hazard Mitigation Plan were distributed to those in attendance. SIU provided a hazard overview. The presentation instructed attendees on local historical hazards and potential threats to Piatt County.

After the presentation the Polis Center handed out typical mitigation strategies that have been employed by various other counties to be considered for the next meeting. Each jurisdiction in the county was encouraged to consider several actions that could or should be taken in their communities to lessen the impact of these hazards.

The next meeting was not scheduled at this time.

Pre-Disaster Hazard Mitigation Plan Meeting
Piatt County, IL
4th Meeting
November 16, 2011

On 11-16-2011, the second MHMP meeting was held at the Livingston Center, Monticello, Illinois. Attending were:

Name	Email	Representing
Jonathan Manuel	Jonathon.Manuel@il.nacdnet.net	Mansfield
Woodie Dean		Bement
Jim Donaldson	pcema2010@yahoo.com	Piatt County EMA
Brian Gregory		Mid Piatt Fire Protection
David Hunt		Piatt County Sheriff
Tom Keagle	Kirby Ambulance	Kirby Ambulance

Laura Danielson and Chris Schmitz represented the Polis Center of IUPUI and conducted meeting 4. They explained the process of developing mitigation strategies and hazard prioritization. Each hazard was reviewed with specific community needs addressed.

Floods:

- Lower/dredge ditches to improve drainage - Hammond
- Bridge on RT 10 has been elevated – completed
- Buyouts
- Ditches to mitigate standing water - Deland
- Retention pond - Milmine
- Pierson Station flooding history
- Building ordinances
- Clear ponds/waterways

Thunderstorms:

- Warning devices
- Storm shelters
- Blackboard – completed
- Public education

Tornados:

- Warning sirens in rural areas
- Nixle
- Livingston Center as shelter – Monticello
- Public education
- Weather radios – completed
- Tie-down ordinance

Hazmat/Fire/Structure:

- Community flow study
- Mutual aid
- Railroad crossings
- Public education
- Evacuation plans
- Brownfield dump

Winter Storms:

- Master database of special needs population
- Warming shelters
- Tree trimming

Earthquakes:

- Public education in schools
- Install inertial valves

Drought

- Public education
- Warming shelters
- Database of special needs population

Other

- Rescue tubes for grain elevator accidents
- Mutual aid/training

Each member in attendance was given the opportunity to rate the significance of each strategy: high/medium/low.

Meeting #5 scheduled for January 18, 2012. The EMA has asked Polis staff to attend this meeting.

Pre-Disaster Hazard Mitigation Plan Meeting
Piatt County, IL
5th Meeting
January 18, 2012

On 7-13-2011, the final MHMP meeting was held at the Livingston Center, Monticello, Illinois. Attending were:

Name	Contact Info	Representing
Ron Weisheer	Cisco Fire Department	Cisco
Darrell Bush	dfb@mchs1.com	Deland
Jim Donaldson	pcema2010@yahoo.com	Piatt County EMA
Ron Rochyby	ronrochyby@gmail.com	White Heath
Jim Mudd	Cerro Gordo EMA/PD	Cerro Gordo
John Buechler	jobuech@iupui.edu	Polis Center

John Buechler of the Polis Center opened the meeting by distributing copies of the Piatt County MHMP and explaining this final step in the process. Attendees were asked to closely review the document and provide edits as necessary. Edits provided at this time included:

1. Darrell Bush is Chief of the Deland Fire Department
2. Ron Rochby is Chief of the Mid-Piatt Fire Department
3. Deland and Monticello currently have grain elevator rescue
4. Mitigation strategies to include participation in the annual Shake-Out Drill

Jim Donaldson will insure all communities and team members have the opportunity to review the plan and provide feedback. All present agreed to submit and edits to the Polis Center before January 27, 2012.

Appendix B: Articles Published by Local Newspapers

No parking zones, detention work get Council nod

Thu, 09/22/2011 - 10:50am | **Nancy Koeneman**

Like Tweet 0

No parking zones along the Monticello Transportation Improvement Project/farm route were approved by the Monticello City Council on Monday, Sept 12.
Sections of that route already had no parking posted, and adding the parking restrictions on other sections of the road will make it easier for traffic to maneuver those routes, said City Superintendent Floyd Allsop.
The new No Parking zones include:

- The north side of Center Street from Buchanan Street to Charter Street
- The south side of Center Street from Market Street to Charter Street and Hamilton to Buchanan Streets.
- Both sides of Buchanan Street from Washington Street to Marion Street
- The North side of Marion Street from Buchanan Street to Hamilton Street.

The council also approved moving forward on detention pond work near the Monticello Middle School, pending temporary easement approval from the school district and the purchase of approximately four acres of land adjacent to the existing, undersized detention area the city will be enlarging. The land is privately owned and Allsop was authorized by the council to make an offer and negotiate the purchase. The work will not help the farmer's land or the school district, Allsop said, but should ease the water issues that affect the rest of the community.

Alderman Tim Hayes said this was a step the city has been talking about for some time in relation to the flooding at Tatman Village in 2008.
"This will benefit the rest of the community," said Alderman Stan Eades. "It will slow down the water in this area to allow the rest of town to drain.
An existing 2.5 acre detention area will be expanded to 5 acres, Allsop said. City crews should be able to do the work on the expansion, so no contractors will need to be hired, he said.

Source: Piatt County Journal Republican

Monticello cemetery district addresses drainage issue

Fri, 07/29/2011 - 1:06pm | **Kyle Moss**

Like Tweet 0

Measures to reduced the severity of flooding in the Monticello Cemetery were completed last week.

Seevers Farm Drainage installed 560-feet of six-inch perforated plastic pipe and two Type A 24-inch manholes in trouble areas along the far east side of the cemetery near Valentine Park.
The project, which was completed on July 20, concluded the completion of process the Monticello Township Cemetery District had been dealing with for years and approved during its July 13 meeting.

"This was something we've wanted to do and the money was there, so we decided to move forward," said Chris Cravens, cemetery sexton.

The project received two bids with the contract being awarded to Seevers Farm Drainage at $4,517. Hislope Backhoe's made the other bid at $18,380.

The project was originally scheduled for completion in either August or September, but was accelerated due to the favorable and dry conditions.

"We're kind of anxious to see how the new drainage will work," said Cravens. "We'll definitely be watching with curiosity after our next big rainfall."

In other news, Cravens reported the cemetery had two burials, two lots sold and four lots purchased. Cravens also reported repairs from a storm earlier in the year were completed.
Discussions with Mediacom also continue regarding wires that have been left grounded, after falling during a storm last April.

"During the storm, we had some cables go down and Verizon actually had to put up two new poles to fix their lines," said Cravens. "However, Mediacom didn't have the bucket and truck available at the time to hang their wires. They said they would be back when it was dry and have failed to do anything since. Now, we just have an eyesore and a trip hazard."

Source: Piatt County Journal Republican

Storms put disaster planning to the test

Thu, 06/02/2011 - 12:05pm | **Nancy Koeneman**

Like Tweet 0

Photo by: Nancy Koeneman

Chris Cravens, Monticello Township Cemetery Sexton, and his crews worked fast last week, cleaning up downed trees from the storms Wednesday. Cravens said before the storms sturck, the cemetery ground were ready for Memorial Day services.

While the storms on Wednesday, May 25 did some damage in the area, downing trees at the Monticello Township Cemetery and Forest Preserve Park, it also put Monticello's schools disaster preparedness plans to the test.

The tornado warning sirens sounded in Monticello at 7:55 a.m.

"We had half the kids here, 25 percent on the buses and another 25 percent outside the schools waiting to be dropped off," said Monticello Superintendent Vic Zimmerman.

He said students already in the buildings were directed to the safe areas in the building, the lower levels or inside hallways.

The buses were told to pull up to the school buildings and the students were sent in to take shelter. Students transfer between buses at the high school and middle school to get to the appropriate schools.

"We had five kindergarteners at the high school," Zimmerman said. He contacted the principal at Lincoln Elementary School, Mary Vogt, to let her know the students were being sheltered at the high school, he said. There were also students at the middle school who needed to get to White Heath.

Once the all clear was given at 8:25 a.m., "we ran the buses around to get everyone picked up and by 8:50 a.m. or so, we had everybody in the right place," Zimmerman said.

Zimmerman then used the school's phone notification system to let parents know what happened at the schools and how it was handled.

The whole process went very well, Zimmerman said. All of the school's principals have cell phones and the buses have two-way radios, so the communication system worked, he said.

"When you do drills, you don't plan for all the scenarios," Zimmerman said. "At 10 a.m. on the 2nd Tuesday, we do a drill and students all go to a designated safe place," Zimmerman said. However, tornados or other disasters don't usually happen between third and fourth period at the school,

"With any safety plan, you know if you have a real situation, you have a base plan in place," he said. "We're fortunate that nothing serious really happened here today."

The school has three pieces to the safety plan: evacuation, such as a fire drill; disaster drill, where they go to a safe place as in the case of a tornado, or lock down, he said. The schools used the disaster drill scenario Wednesday.

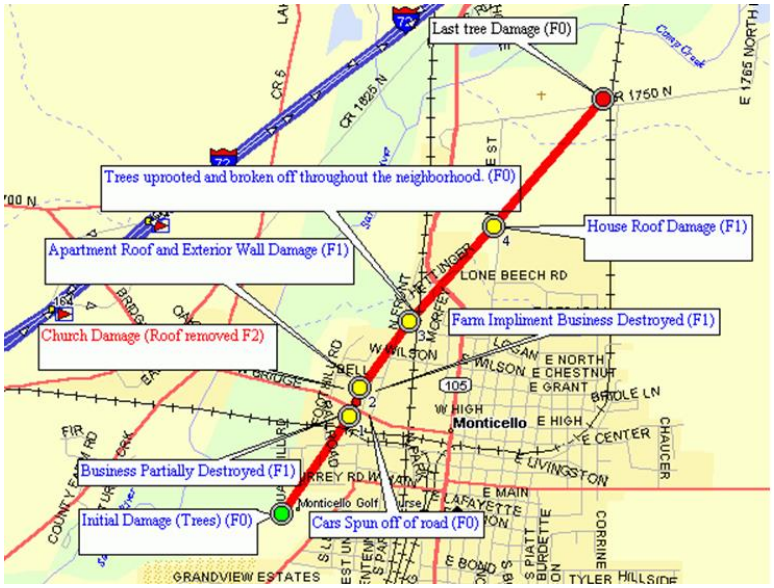
Source: Piatt County Journal Republican

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE LINCOLN IL
530 PM CDT THU OCT 25 2001

A STORM ASSESSMENT WAS DONE BY REPRESENTATIVES FROM THE NATIONAL WEATHER SERVICE IN LINCOLN TODAY AFTER NUMEROUS DAMAGE REPORTS FROM SEVERE WEATHER WHICH OCCURRED ON OCTOBER 24, 2001. HERE IS A SUMMARY OF THE FINDINGS FROM THE FOLLOWING LOCATION.

MONTICELLO, IL (PIATT COUNTY) TORNADO

EYEWITNESSES REPORTED A TORNADO TOUCHED DOWN NEAR THE SOUTHWEST EDGE OF THE TOWN. AS IT DID...SIGNIFICANT DAMAGE OF F2 INTENSITY...WHICH CORRESPONDS WITH ESTIMATED WIND SPEEDS OF 120 TO 130 MPH WAS NOTED IN A SMALL AREA ROUGHLY 2 CITY BLOCKS LONG. A STORAGE BUILDING WAS DESTROYED...AS WELL AS THE ROOF OF A CHURCH WAS COMPLETELY TAKEN OFF AND BLOWN INTO THE ROOF OF A NEARBY 2 STORY APARTMENT BUILDING. THE APARTMENT BUILDING SUFFERED SEVERE DAMAGE AND HAS BEEN DEEMED UNINHABITABLE. A FARM IMPLEMENT BUILDING...WHICH WAS CLOSE TO 200 FEET IN LENGTH...HAD ROUGHLY THREE QUARTERS OF THE BUILDING DESTROYED. DAMAGE FOR THIS BUILDING WAS ESTIMATED AT NEARLY $2 MILLION...AS SEVERAL COMBINES INSIDE WERE SEVERELY DAMAGED OR DESTROYED. DEBRIS FROM THE BUILDING WAS THROWN INTO A NEARBY POWER SUBSTATION...CAUSING A COMPLETE POWER OUTAGE TO THE TOWN AS WELL AS NEIGHBORING COMMUNITIES. THE TORNADO APPEARED TO HAVE LIFTED OFF THE GROUND AND STAYED AT TREE TOP LEVEL FOR THE REMAINDER OF ITS LIFE THROUGH THE TOWN PRODUCING F0 DAMAGE...WHICH CORRESPONDS TO ESTIMATED WIND SPEEDS OF 65 TO 70 MPH. THE FUNNEL LEFT THE TOWN...WITH ADDITIONAL DAMAGE REPORTED 1 MILE NORTHEAST IN A SUBDIVISION. MOST DAMAGE FOUND ALONG THE PATH WAS TREES BROKE OFF AT THE TOP...WITH SEVERAL LARGE...HEALTHY TREES BEING UPROOTED. THE TOTAL LENGTH OF THE DAMAGE PATH WAS 2.5 MILES...WITH AN AVERAGE WIDTH OF 2 CITY BLOCKS.



Source: http://www.crh.noaa.gov

Piatt County Awarded FEMA Funds

Mar 7, 2011

Notice is being given that Piatt County is anticipated to be chosen to receive funding to supplement emergency food and shelter programs in the county. This selection will be made by a National Board that is chaired by the Department of Homeland Security's Emergency Management Agency (FEMA) and consists of representatives from the Salvation Army; American Red Cross; United Jewish Communities; Catholic Charities, USA; National Council of the Churches of Christ in the U.S.A, and the United Way of America.

A Local Board made up of governmental officials and social services agencies is responsible for recommending the agencies to receive the funds available under this phase of the proram. The Local Board is in charge of distributing funds appropriated by Congress to help expand the capacity of food and shelter programs in high-need areas around the country. They will determine how the funds awarded to DeWitt County are to be distributed among the emergency food and shelter programs run by local service agencies.

Under the terms of the grant from the National Board, local agencies chosen to receive funds must: 1) be private, voluntary non-profits or units of government, 2) have an accounting system, 3) practice non-discrimination, 4) have demonstrated the capacity to deliver food and/or shelter programs, and 5) if they are a private voluntary organization, they must have a voluntary board and FEIN and D-U-N-S number.

Piatt County has distributed Emergency Food and Shelter Funds previously with Community Action Partnership of Central Illinois participating. Community Action has been responsible for providing thousands of meals and hundreds of utility and rental assistance payments throughout the years. Public or private voluntary agencies interested in applying for Emergency Food and Shelter Program funds must contact Wendy Dotson at Community Action as soon as possible at 217.762.2421.

Source: Monticello enews.com

The News-Gazette
SERVING EAST CENTRAL ILLINOIS

LaPLACE — Personnel from the Illinois state fire marshal's office are expected to visit LaPlace on Tuesday to investigate the cause of a fire that destroyed one house and damaged a second house on Monday afternoon.

Cerro Gordo Fire Chief Randy West said firefighters were called to fires at 118 and 114 N. West C St. in LaPlace at 3 p.m. Monday.

When firefighters arrived at 3:06 p.m., West said one single-story home was on fire, with high winds causing the fire to spread to a neighboring single-story house.

Cerro Gordo firefighters received mutual aid assistance from the Cisco, Hammond, Argenta-Oreana, Mount Zion, Long Creek and Mid-Piatt fire departments, West said.

West didn't have information on the owners of the two homes, but he said that at least two people escaped from the homes. No injuries were reported, West said.

West said that firefighters had the two major fires under control within about 10 minutes, but firefighters continued to put out hot spots in the home at 118 N. West C St. after several roof structures fell on top of each other.

Firefighters left the scene at 6 p.m., West said.

West said the home at 118 N. West C St. was a total loss, with $60,000 of damage to the building and its contents.

The News-Gazette
SERVING EAST CENTRAL ILLINOIS

Tue, 04/19/2011

Hundreds of residents in East Central Illinois were without electricity as storms swept through the area bringing rain and high winds.

And the National Weather Service issued a flood warning in Piatt County, saying heavy rains were swelling the Sangamon River near Monticello, and would push it above flood stage early Thursday morning.

Hail ranging from a half-inch to 1.25 inches in diameter was reported in central Illinois. Areas west of Champaign-Urbana were hit harder by the storm, according to weather service. A tornado was reported in Henning in Vermilion County, and others were reported in Christian County. Utility poles were reported down at the intersection of Illinois 1 and Illinois 9 in Hoopeston.

In Monticello, the Sangamon River was at 8.5 feet Tuesday night. Flood stage is at 13 feet, a mark expected to be reached early Thursday morning, before falling back below flood stage on Saturday. Some minor agricultural flooding is predicted along the river, the weather service said.

Ameren Illinois reported that more than 450 customers were without power in Champaign County and 600 in Piatt County on Wednesday morning, and smaller numbers in other area counties.

Flash flood warnings were in effect for all or parts of Coles, Douglas, Edgar and Moultrie counties.

More thunderstorms are possible Thursday night through Friday night and again Saturday night through Monday, the weather service says.

Appendix C: Historical Hazards Recorded by NCDC

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	3/4/1961	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	10/18/1963	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	4/19/1972	Hail	0.75 in.	0	0	0	0	None Reported
Piatt	7/3/1973	Hail	0.75 in.	0	0	0	0	None Reported
Piatt	7/3/1973	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	3/4/1974	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	4/3/1974	Tornado	F1	0	0	3K	0	None Reported
Piatt	4/3/1974	Tornado	F0	0	0	3K	0	None Reported
Piatt	5/30/1974	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	6/19/1974	Tornado	F0	0	0	0	0	None Reported
Piatt	8/2/1974	Hail	0.75 in.	0	0	0	0	None Reported
Piatt	5/26/1975	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	3/20/1976	Tornado	F4	0	5	2.5M	0	None Reported
Piatt	5/12/1978	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	7/5/1980	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	4/10/1981	Hail	1.75 in.	0	0	0	0	None Reported
Piatt	4/13/1981	Tstm Wind	52 kts.	0	0	0	0	None Reported
Piatt	4/2/1982	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	4/2/1982	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	5/25/1984	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	4/23/1985	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	7/2/1985	Hail	1.50 in.	0	0	0	0	None Reported
Piatt	11/19/1985	Tornado	F1	0	0	250K	0	None Reported
Piatt	5/16/1986	Hail	0.75 in.	0	0	0	0	None Reported
Piatt	5/16/1986	Tornado	F1	0	0	3K	0	None Reported
Piatt	5/16/1986	Hail	0.75 in.	0	0	0	0	None Reported
Piatt	7/31/1986	Hail	0.75 in.	0	0	0	0	None Reported
Piatt	4/11/1987	Tornado	F1	0	0	250K	0	None Reported
Piatt	6/2/1987	Hail	1.30 in.	0	0	0	0	None Reported
Piatt	9/8/1989	Tstm Wind	0 kts.	0	0	0	0	None Reported

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	6/17/1990	Tstm Wind	0 kts.	0	0	0	0	None Reported
Piatt	5/16/1991	Tornado	F0	0	0	0	0	None Reported
Piatt	10/4/1991	Tstm Wind	0 kts.	0	0	0	0	None Reported
De Land	8/16/1993	Hail	0.75 in.	0	0	0	0	A tornado briefly touched down near old Highway 47, 3 miles west of Monticello. No damage was reported.
Monticello	8/16/1993	Tornado	F0	0	0	0	0	A tornado briefly touched down near old Highway 47, 3 miles west of Monticello. No damage was reported.
Piatt	4/11/1994	Flash Flooding	N/A	2	0	50.0M	0	Very heavy rainfall fell over most of central Illinois April 11th and 12th. Rainfall amounts ranged from 1.40 inches to 5.28 inches in less than six hours at most locations. Numerous homes were damaged by flash flooding and many roads were closed due to flooding. Two people died after trying to drive their cars across flooded roadways. One occurred near White Oak in Montgomery County sometime after 0530 CST on the 11th. A man was travelling north when his car went off the road into Horse Creek. The second fatality occurred west of Thayer in Sangamon County at 0430 CST. The car was crossing a bridge over a branch of Sugar Creek when it was swept 50 yards into the flooded stream.
Piatt	4/12/1994	Flooding	N/A	0	0	50.0M	0	Flooding occurred along the Vermilion, Embarras, Sangamon, and Illinois rivers and their tributaries due to the very heavy rain which fell on April 11th and 12th. Thousands of homes had some kind of flood damage. Danville's water treatment plant was flooded causing $10 million in damage.
Cisco	7/19/1994	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds blew down several trees and limbs in Cisco
Piatt	5/14/1995	Flood	N/A	0	0	0	0	None Reported
Piatt	5/20/1995	Flood	N/A	1	0	0	0	The Sangamon River went above flood stage in Monticello on May 14th after very heavy amounts of rain fell over the area in the first part of May. The river went above flood stage in Macon County on the 16th, in Sangamon County on the 18th, and in Menard and Cass counties on the 18th through the 20th. More rain fell over the area in the last half of May which kept the river above flood stage into the first part of June in most places. A man fell into the Sangamon River near Petersburg on May 21st while helping some friends move their belongings. He drowned in the river and was not found till May 28th. Most of the damage sustained was to cropland and roads throughout the area. Only a few homes sustained any flood damage. No damage estimate was available for the flooding along the Sangamon River yet.
Piatt	6/1/1995	Flood	N/A	0	0	0	0	None Reported
Monticello	6/20/1995	Tstm Wind	0 kts.	0	0	0	0	One tree was blown down.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	12/8/1995	Winter Storm	N/A	1	0	0	0	A winter storm brought one to five inches of snow to Central Illinois during the day and evening of the 8th. A sharp cold front moved through during the evening of the 8th dropping temperatures 25 degrees in three hours. Strong winds developed behind the front at 20 to 30 mph overnight and during the day on the 9th, causing considerable blowing and drifting of the snow. The brisk winds and temperatures near zero created wind chills as low as 45 degrees below zero. One woman was killed in a traffic accident after sliding on an ice-covered road into on-coming traffic.
Piatt	12/18/1995	Winter Storm	N/A	1	0	0	0	A winter storm brought heavy rains the evening of the 18th, which changed to freezing rain overnight before changing to all snow by the 19th. Numerous accidents were reported, though only one fatality occurred when a five-month-old boy was killed when his mother lost control of the vehicle and spun into the path of an on-coming tractor-semitrailer. Numerous power lines were knocked down throughout Central Illinois due to freezing rain and strong winds of 20 to 30 mph. The winds also caused considerable blowing and drifting of snow closing some roads until the winds subsided in the evening on the 19th.
Piatt	1/2/1996	Winter Storm	N/A	0	4	0	0	The second major winter storm of the season moved through Central Illinois January 2nd and 3rd. The storm dumped up to 8 inches of snow across the area. Also, gusty northwest winds from 30 to 40 mph accompanied the storm, creating near whiteout conditions, making travel hazardous, and closing numerous roads. There were numerous minor accidents, though only two accidents resulted in 4 serious injuries.
Piatt	1/4/1996	Winter Storm	N/A	0	0	0	0	Following on the heels of the January 2nd/3rd storm, another winter storm moved through Central Illinois on January 4th. Snowfall ranged from 2 to 7 inches. Numerous minor accidents were reported across the area, though no major injuries were reported.
Piatt	1/18/1996	Winter Storm	N/A	0	2	0	0	A major winter storm moved through Central Illinois January 18th and 19th. Severe thunderstorms moved through the area during the late morning and early afternoon hours. Afterward, temperatures began to drop quickly. Most locations recorded a 60 degree drop over 12 hours. Rain changed to ice than snow causing numerous power outages and minor accidents. Two people were injured when the driver of a RV lost control when a strong gust of wind moved through. Gusty winds of 25 to 35 mph created winds chills near 40 below zero across most of Central Illinois.
Milmine/Cerro Gordo	1/18/1996	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds blew down numerous power lines and power poles in Cerro Gordo and Milmine.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	2/2/1996	Extreme Cold	N/A	2	0	0	0	Bitterly cold weather took hold of Central Illinois on the 2nd, 3rd, and 4th of this month. New record low temperatures with a low of minus 19 in both Peoria and Springfield on Feb 3rd. Also, new record lows were made when the temperatures at Peoria and Springfield never went above zero on the 2nd and 3rd. Many people experienced problems with cars and frozen pipes. Two deaths were reported due to the extreme cold. A 78 year old man in Springfield froze to death within a few feet of his own front door. He reportedly could not find his house keys and fell. His wife could not help him and they were not found for several hours. In Peoria, a 79-year-old woman froze to death on her front porch.
Piatt	3/25/1996	High Wind	0 kts.	1	0	0	0	Strong gradient winds caused minor damage across Central Illinois and caused an accident which killed one person. Winds gusting to 40 and 55 mph caused a bedliner and a concrete block to be blown from the bed of the pickup truck. The concrete block was thrown through the windshield of a car travelling in the opposite direction. The block hit the driver's chest killing him. The winds blew down numerous power lines.
Melmine	4/19/1996	Tornado	F1	0	0	500K	0	A tornado briefly touched down in Milmine completely destroying a new grain bin, throwing a grain auger across the railroad tracks, and caused minor damage to some homes in town, mainly some shingle and window damage. Also, several trees were blown down, windows on a number of cars were broken and several large trucks were overturned. No injuries were reported and damage was estimated around $500,000.
Monticello	4/19/1996	Tornado	F1	0	1	1.0M	0	A tornado touched down briefly 3 miles south of Monticello, in the Breezy Meadows subdivision where it destroyed 2 homes, seriously damaged a third, caused major damage to a church and a metal machine shed. The tornado then lifted and travelled to the northeast touching down 2 miles southeast of Monticello at the Monticello Airport. Again, the tornado was only on the ground briefly, destroying 3 single engine planes, 2 gliders, a hanger and caused major damage to another hanger before lifting and dissipating. Only one minor injury was reported and damage was estimated around $1 million.
Cerro Gordo	5/3/1996	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds broke off several telephone poles in Cerro Gordo.
La Place	5/8/1996	Flash Flood	N/A	0	0	10K	0	Slow moving thunderstorms dumped up to 5 inches of rain in short time. Flash flooding was reported in LaPlace, Bement and Atwood. Ten homes in LaPlace sustained some damage from the flood waters and IL Rt. 32 was flooded for a couple of hours. In Atwood, the grade school's basement was flooded and four homes were partially submerged. In Bement, two homes sustained minor flood damage. No injuries were reported and the preliminary damage estimate is $10,000.
Monticello	10/29/1996	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds blew down several trees and power lines in Monticello. No injuries or damage were reported.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	10/30/1996	High Wind	56 kts.	0	0	0	0	High winds associated with a strong area of low pressure caused damage in numerous counties throughout Central Illinois. Sustained winds averaged 30 to 40 mph with gusts to near 65 mph in some areas. Most of the damage was to trees, limbs, and power lines. No injuries were reported and no damage estimate was available from any of the counties who sustained damage.
Piatt	11/25/1996	Winter Storm	N/A	0	0	0	0	A winter storm brought a mixture of rain, freezing rain, sleet, snow and strong winds to Central Illinois on November 25. Significant icing occurred in this area. This caused numerous accidents and power outages. Several injuries were reported from the accidents but no deaths. Power outages came as ice covered power lines snapped from winds of 15 to 30 mph.
Piatt	1/8/1997	Heavy Snow	N/A	0	6	0	0	A winter storm developed across southern Illinois. The storm dumped between 3 and 11 inches of snow over central Illinois. The heaviest snow fell in a corridor just north of I-70. Numerous accidents were reported throughout central Illinois. 6 minor injuries were reported.
Piatt	1/15/1997	Winter Storm	N/A	1	7	0	0	A winter storm developed over the central Rockies and moved east into the Midwest. The storm brought between 4 and 6 inches of snow to a large part of central Illinois north of I-70. South of I-70 a mixture of freezing rain, sleet, and snow occurred with snow totals of 1 to 3 inches. After the snow stopped, the winds picked up to between 20 and 30 mph with higher gusts, causing near whiteout conditions. Also, temperatures fell below zero across the entire area, so with the strong winds and cold temperatures, wind chill readings dipped well below minus 40 degrees in many locations. Numerous accidents were reported though only 6 minor injuries and one person with serious injuries. A 78 year old man died of exposure after apparently trying to walk a short distance to his brother's house.
Piatt	1/26/1997	Winter Storm	N/A	0	9	0	0	Snow moved through central Illinois on the 26th with amounts ranging from 1 to 4 inches. The snow let up around 4 pm on the 26th. A mixed bag of precipitation began to fall over the southern areas of central Illinois around 4 am on the 27th and spread north into the rest of central Illinois. By the time the precipitation ended in the evening of the 27th, another 1 to 5 inches of snow had fallen. Numerous accidents were reported, especially in the morning hours on the 27th. Nine minor injuries were reported.
Piatt	4/6/1997	High Wind	56 kts.	0	0	0	0	The combination of a strong area of low pressure over Lake Superior and a strong area of high pressure over Texas created very high gradient winds over Central Illinois. Sustained winds averaged between 25 and 40 mph with higher gusts to 65 mph in some areas. These gradient winds blew down numerous trees, limbs, and power lines throughout Central Illinois.. No damage estimates were available for this event.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	4/30/1997	High Wind	61 kts.	0	1	38K	0	Strong gradient winds in excess of 50 mph with gusts to around 70 mph followed behind a line of severe thunderstorms as they marched across Central Illinois. Thousands of people across Central Illinois lost power as hundreds of power lines were blown down. Several semis were blown over, with one trucker sustaining minor injuries when his semi was overturned. Also, numerous trees and limbs were blown down and widespread structural damage was reported. The gradient winds blew part of the roof off of a grade school gymnasium one mile west of De Land (Piatt County). Damage was estimated around $32,000 and no injuries were reported. Numerous sheds, grain bins, and machine sheds were either blown over, damaged, or destroyed by the gradient winds. Fortunately no deaths or serious injuries were reported.
Monticello	4/30/1997	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds blew off the doors of a shed and a barn 5 miles northwest of Monticello. No injuries were reported and no damage estimate was available. There were numerous reports of trees, limbs, and power lines knocked down. Also, 6 tornadoes were reported across the area. Fortunately, only a few minor injuries were reported and no deaths occurred with these tornadoes.
Monticello	4/30/1997	Tornado	F0	0	0	0	0	A tornado briefly touched down in an open field, near the intersection of I-72 and Route 10. No damage or injuries were reported. Severe thunderstorms developed ahead of a cold front which moved through Central Illinois during the afternoon and early evening hours. There were numerous reports of trees, tree limbs, and power lines knocked down. Also, 6 tornadoes were reported across the area. Fortunately, only a few minor injuries were reported and no deaths occurred with these tornadoes.
White Heath	7/21/1997	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds blew down a large tree onto some power lines 1 mile northeast of White Heath. No injuries were reported and no damage estimate was available.
Piatt	7/26/1997	Excessive Heat	N/A	2	0	0	0	A brief heat wave hit Central Illinois persisting for a little less than 48 hours from July 26the to July 27th. Temperatures ranged from 95 to 100 degrees both days with heat index values ranging from 105 to 115 degrees. There were numerous reports of heat related injuries in most area hospitals. Also, there were numerous reports of roads buckling due to the high temperatures.
La Place	8/24/1997	Hail	1.75 in.	0	0	0	0	None Reported
Piatt	9/29/1997	High Wind	55 kts.	0	0	0	0	A strong area of low pressure centered over Lake Superior created strong gradient winds over a large portion of the upper midwest. Sustained winds ranged from 25 to 35 mph with gusts to over 60 mph. Numerous trees, tree limbs, and power lines were blown down. No damage estimates were available for any of the damage reported.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	3/8/1998	Winter Storm	N/A	2	0	0	0	A storm over the Southern Plains moved northeast bringing rain to the area which switched over to snow in the evening on March 8th. The snowfall persisted overnight with a mixture of freezing rain and snow. Numerous accidents were reported with dozens of minor injuries. Even after the snowfall subsided, winds to 50 mph created near white-out conditions in most locations.
Cisco	5/12/1998	Hail	1.00 in.	0	0	0	0	None Reported
Bement	5/19/1998	Tstm Wind	0 kts.	0	0	4K	0	As a severe thunderstorm moved southeast across southern Piatt county, it blew down numerous power lines, trees, and tree limbs. Also, the winds damaged several storage sheds and barns. No injuries were reported.
Monticello	5/23/1998	Hail	0.75 in.	0	0	0	0	None Reported
Cerro Gordo	6/12/1998	Tstm Wind	0 kts.	0	0	0	0	Tstm Winds blew down numerous trees, tree limbs, and power lines in Cerro Gordo and Atwood.
Piatt	6/26/1998	Excessive Heat	N/A	1	0	0	0	A hot and humid air mass built in across Central Illinois late in June. High temperatures on June 26th and 27th climbed into the middle and upper 90s. This combined with the high humidity values produced heat indicies of 105 to 110 degrees at times. Several heat related illnesses were reported in area hospitals due to the heat. One death was reported in Peoria and was confirmed to be heat related as a woman died in her home on June 27th. Also, several highways in the area had sections of roadway buckle due to the excessive heat.
Piatt	6/29/1998	Tstm Wind	0 kts.	0	0	300K	0	A large bow echo system developed over eastern Iowa and moved rapidly to the southeast into Illinois. Wind speeds were measured or estimated to be between 60 to 80 mph, blowing down or uprooting thousands of trees, tree limbs, power poles, and power lines. Hundreds of trees fell onto structures causing damage ranging from just torn guttering to major roof and structural damage. Also, hundreds of vehicles sustained damage from fallen trees and numerous outbuildings, sheds, and silos were either damaged or destroyed. Considerable crop damage was sustained in most areas. In some areas, more intense damage was observed, caused by stronger wind speeds. Speeds were measured or estimated in these areas at 100 to 110 mph. A third phenomena that occurred with this event were spin-up tornadoes along the leading edge of the bow echo structure. These tornadoes caused significant damage in narrow swaths along the bow echo's path and were often masked by the microburst damage occurring adjacent to themOverall, approximately twelve people sustained injuries and damage was estimated around $16 million.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	11/10/1998	High Wind	57 kts.	0	1	60K	0	A strong storm system moved across the Midwest which ushered in a line of severe thunderstorms. About an hour after the storms passed strong gradient winds developed and continued until the late afternoon hours. Winds gusted to over 50 mph at times with sustained winds well over 35 mph. Thousands of power lines and tree limbs were blown down throughout Central Illinois and hundreds of trees were blown over.
Cisco	11/10/1998	Tstm Wind	0 kts.	0	0	0	0	Several trees and power lines were blown down in Cisco and Atwood.
Piatt	1/1/1999	Heavy Snow	N/A	1	1	0	0	A major winter storm paralyzed much of the region during the first few days of 1999. Snow began falling across portions of Central Illinois before noon on New Year's Day and continued to fall, moderate to heavy at times for most of the following 24-hour period. After the snowfall and precipitation diminished, winds increased from the northwest and temperatures dropped, causing dangerous wind chills and treacherous driving conditions with extensive blowing and drifting snow through the third day of the year. Total snow accumulations topped 6 inches mainly along and north of Interstate 70. Lesser amounts fell to the south, where more freezing precipitation was reported. The weight of the heavy snow and ice caused many roofs and porches to collapse, resulting in one death and an injury. No damage estimates were available. In addition, many locations sustained temporary or extended power outages during the storm.
Piatt	1/5/1999	Extreme Cold	N/A	0	0	0	0	A clear sky, light winds and thick snow cover set the stage for record cold morning temperatures across the region. A new state record low was set at Congerville, where the mercury plunged to 36 degrees below zero.
Piatt	1/13/1999	Ice Storm	N/A	0	0	0	0	An early morning ice storm accumulated from 1/4" to 1/2" ice across portions of eastern and southeastern Illinois. The ice caused widespread power outages and numerous car accidents. Only minor injuries were reported and no damage estimates were available.
Piatt	3/8/1999	Heavy Snow	N/A	0	5	0	0	A winter storm developed in the Southern Rockies and moved northeast into Illinois. The heaviest snow fell mainly north of interstate I-72/I-74 from Jacksonville to Danville. Wet snowfall amounts ranged from 6-11 inches in a little over 12 hours, though the snow fell for 24 hours. Snowfall amounts averaged between 2 to 4 inches between I-72 and I-70 with less than 1 inch of snow southeast of I-70 where rain generally fell. Some light freezing rain was also reported south of I-72/I-74 but ice accumulations were less than a quarter inch. Dozens of accidents occurred throughout the area during the event with numerous minor injuries.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Cisco	4/8/1999	Tornado	F1	1	3	150K	0	A tornado formed and touched down destroying a double wide trailer 3 miles north of Cisco. Four people were initially injured, though one died the next day. A barn and two garages nearby were destroyed. Further to the northeast, the tornado destroyed a barn. Five miles north northeast of Cisco, the top story of a two story barn was removed. After this, the tornado lifted and dissipated. Damage to the mobile home was estimated around $150,000.
Atwood	4/10/1999	Hail	0.75 in.	0	0	0	0	None Reported
Cerro Gordo	4/20/1999	Hail	1.75 in.	0	0	0	0	None Reported
Monticello	4/22/1999	Hail	0.88 in.	0	0	0	0	None Reported
Monticello	6/1/1999	Tstm Wind	0 kts.	0	0	0	0	Numerous trees, tree limbs, and power lines were blown down in Monticello and Pierson Station. Some trees fell onto US Route 36 near Pierson Station.
Mansfield	6/4/1999	Tornado	F0	0	0	0	0	A tornado briefly touched down in a field. No damage was reported.
Piatt	7/20/1999	Excessive Heat	N/A	4	0	0	0	The excessive heat wave began on the 20th of July and continued for most of the area through the 26th. Temperatures were in the lower to middle 90s with heat index values in the 105 to 110 degree range each day. Northern sections of the area did cool down some by the 25th as a front moved through the area...so the heat advisory was cancelled in those areas. During this time period four heat related deaths were reported in Central Illinois.
Piatt	7/28/1999	Excessive Heat	N/A	1	0	0	0	The heat returned to Central Illinois after a two day break. Temperatures rose into the lower to middle 90s again with heat index values in the 105 to 110 degree range. One heat related death occurred during this time. By the 30th a cold front began to move through the area, so the heat advisory was cancelled for northern sections of the area, but the excessive heat persisted in the rest of Central Illinois through the 31st.
Piatt	1/19/2000	Winter Storm	N/A	0	2	0	0	During the day and early evening hours on the 19th, a winter storm with heavy snow affected Central Illinois with 4 to 6 inches of snow across a large area. Blowing and drifting of snow was reported. The storm caused numerous road closures as well as accidents. Two injuries were reported with a couple of the accidents.
Lodge	4/20/2000	Tornado	F0	0	0	0	0	A tornado made a series of touchdowns over a 3.5 mile path. In Lodge, the tornado briefly touched down destroying a chimney on a house, then lifted and moved to the east. It touched down one more time near the intersection of Route 10 and I-72 in a field. No injuries were reported.
Monticello	5/12/2000	Hail	1.75 in.	0	0	0	0	None Reported

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Mansfield	6/20/2000	Tornado	F0	0	0	0	0	A tornado made a series of brief touchdowns over a 2.6 mile long path. The tornado made its first touchdown 1 mile southeast of Mansfield (Piatt County) and destroyed a barn. As it traveled to the southeast, it crossed into Champaign County, 2.5 miles west of Mahomet. No injuries were reported.
Mansfield	6/23/2000	Tstm Wind	0 kts.	0	0	0	0	Several trees blown down.
Monticello	8/26/2000	Tstm Wind	0 kts.	0	0	5K	0	Numerous trees were blown down, as well as, large areas of corn and soybean crops extending from Monticello south to the county line along US 36. In Bement, a large tree limb fell onto a house breaking a window and tearing down some guttering. Also, some homes suffered siding damage.
Bement	8/26/2000	Hail	4.00 in.	0	0	0	0	A supercell developed over northern Piatt County and moved to the southeast . In Bement, one inch hail fell. As the storm approached the Milmine area, the hail grew in size. Four inch hail was reported in this area. Several vehicles in this area received hail damage. No injuries were reported.
Bement	8/26/2000	Hail	1.00 in.	0	0	0	0	None Reported
Piatt	12/13/2000	Winter Storm	N/A	1	1	0	0	Snow started between 8 and 10 am, with 6 inches accumulating by 5 pm, and ending by 10 pm. Freezing rain and sleet mixed in with the snow after 3 PM. This was the second winter storm to strike Central IL during the 2000-2001 winter season with the first one occurring just 2 days prior.
Cerro Gordo	2/9/2001	Tstm Wind	50 kts.	0	0	0	0	Power lines blown down.
De Land	8/18/2001	Tstm Wind	55 kts.	0	0	0	0	Downburst winds caused sporadic damage in the county in a two to three mile wide area. Several large trees were blown down. A door on a machine shed was blown in and sporadic crop damage was noted. No injuries were reported.
Monticello	8/18/2001	Hail	0.75 in.	0	0	0	0	None Reported
Atwood	8/18/2001	Tstm Wind	50 kts.	0	0	0	0	Several trees, tree limbs, and power lines were blown down in Atwood near the Piatt/Moultrie/Douglas county lines.
Cisco	8/22/2001	Tstm Wind	50 kts.	0	0	0	0	Tree limb was blown over onto a power line.
Bement	8/30/2001	Tstm Wind	50 kts.	0	0	0	0	Power lines and trees were reported down.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Monticello	10/24/2001	Tornado	F2	0	0	2.2M	0	An eyewitness reported that the tornado touched down on the southwest side of Monticello and traveled to the north northeast across town. It blew down numerous trees near the golf course then destroyed a storage building. In this area the tornado intensified to F2 Intensity (wind speeds of 120 to 130 mph) taking the roof of a church completely off and blew it into the roof of a nearby 2 story apartment building. The apartment building suffered severe damage and has been deemed uninhabitable. A farm implement building/business, which was close to 200 feet in length, had roughly three quarters of the building destroyed. Damage for this building was estimated at nearly $2 million, as several combines inside were destroyed. Debris from the building was thrown into a nearby power substation, causing a complete power outage to the town of 5,000 residents as well as neighboring communities. Numerous trees had the tops broken off and several large trees were uprooted. Once outside of town it did touchdown briefly once more, damaging the roof of one home and destroying several outbuildings and a garage of another. In this location, several 2 by 6 inch pieces of lumber from one of the machine sheds had shot through patio doors into the home. No injuries were reported due to the tornado. Damage is estimated around $2.2 million.
Piatt	3/25/2002	Winter Storm	N/A	0	0	0	0	Freezing rain late in the evening of the 25th produced one-quarter to one-half inch of ice in the counties between I-72 and I-70. The freezing rain changed to sleet, then snow before daybreak. Snowfall amounts ranging from 4 to 7 inches, with significant blowing and drifting, occurred along a line from Pana through Monticello to Danville. The combination of ice and snow resulted in downed power lines and tree limbs, along with dozens of traffic accidents the morning of the 26th.
Cerro Gordo	4/19/2002	Hail	1.75 in.	0	0	0	0	None Reported
Piatt	5/12/2002	Flood	N/A	0	1	0	0	Although the rain had ended, runoff from the storms continued to aggravate the flooding situation across Central Illinois. The runoff continued to cause flooding problems on numerous county roads and basements. Illinois
Piatt	5/12/2002	Flash Flood	N/A	0	0	0	0	Numerous roads were under water due to between 2 and 4 inches of rain, including Illinois Route 105 between Bement and Monticello. Numerous basements in the Cerro Gordo and Bement areas were flooded.
Bement	6/11/2002	Tstm Wind	50 kts.	0	0	0	0	Several trees were blown down north of Bement.
Piatt	8/22/2002	Flash Flood	N/A	0	0	0	0	Between 2 and 5 inches of rain fell in a short amount of time. Numerous roads were flooded.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	12/24/2002	Heavy Snow	N/A	0	0	0	0	Heavy snow accumulations between 6 and 8 inches fell across a large part of Central and Southeast IL between noon on 12/24/02 and 4 AM on 12/25/02. The heavy snow accumulations generally occurred east of I-55 with another heavy snow band just east of the IL. The Christmas Eve snow caused numerous vehicle related accidents especially during the afternoon and early evening of 12/24/02. There were no deaths in Central and Southeast IL. There was only minor blowing and drifting snow with this winter storm. This was the first heavy snow of the season across Central and Southeast IL.
Piatt	2/14/2003	Winter Storm	N/A	0	0	0	0	The most severe winter storm of the season struck 22 counties of central IL from Friday evening on February 14 through early Sunday morning on February 16. Between 4 and 8 inches of snow accumulated along and north of Interstate 72. Around a quarter inch of ice also accumulated along the Interstate 72 corridor. In addition, winds of 30 to 50 mph especially Saturday evening caused major blowing and drifting snow across this area, with drifts as high as 3 to 5 feet.
Monticello	3/19/2003	Hail	0.75 in.	0	0	0	0	None Reported
Cerro Gordo	3/19/2003	Hail	0.75 in.	0	0	0	0	None Reported
Mansfield	4/4/2003	Hail	1.75 in.	0	0	0	0	None Reported
Hammond	5/6/2003	Tstm Wind	55 kts.	0	0	0	0	Tstm Winds blew down numerous trees and power lines.
Cisco	5/8/2003	Hail	1.75 in.	0	0	0	0	None Reported
Monticello	5/14/2003	Tornado	F0	0	0	0	0	A tornado briefly touched down in a field. No damage or injuries were reported.
Monticello	5/30/2003	Tstm Wind	60 kts.	0	0	0	0	Three large trees were blown down.
Piatt	6/11/2003	Flash Flood	N/A	0	0	0	0	Very heavy rain fell in a short amount of time. Several rural roads were flooded and washed out.
Cerro Gordo	6/29/2003	Tstm Wind	52 kts.	0	0	0	0	Tstm Winds blew down several tree limbs. A shed was damaged and a power pole was blown over.
Piatt	7/9/2003	Flash Flood	N/A	0	0	0	0	Very heavy rains fell for several hours over Piatt County. Many streets and roads were flooded. No injuries reported.
Cisco	5/25/2004	Tstm Wind	52 kts.	0	0	0	0	Several trees, power lines and poles were blown down.
Cerro Gordo	5/30/2004	Tstm Wind	52 kts.	0	0	0	0	A line of thunderstorms moved through Piatt County. The winds blew down numerous trees, tree limbs and power poles.
Mansfield	5/30/2004	Tstm Wind	50 kts.	0	0	0	0	Several trees and power lines were blown down.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Mansfield	7/13/2004	Tstm Wind	58 kts.	0	1	800K	0	Numerous trees, tree limbs and power lines were blown down. Several fallen trees landed on homes causing minor to moderate damage. A grain elevator sustained minor damage. Also, a semi was blown over on I-74 near Mansfield. The driver sustained minor injuries.
Cisco	7/22/2004	Tstm Wind	52 kts.	0	0	0	0	None Reported
Cisco	8/9/2004	Tstm Wind	52 kts.	0	0	0	0	A tree was blown down onto a house causing minor damage.
Piatt	11/24/2004	High Wind	52 kts.	0	0	0	0	A strong area of low pressure tracked into the Ohio River Valley from the southern Plains on the 24th. This storm brought strong winds to east central Illinois. Sustained winds of 30 mph with gusts to 60 mph caused widespread tree and power line damage as well as minor structural damage. There were no reports of fatalities or serious injuries.
Piatt	1/5/2005	Ice Storm	N/A	0	0	0	0	A major winter storm moved across the mid Mississippi Valley and into the Ohio Valley on January 5th and 6th. This system brought significant icing to much of central Illinois, with ice accumulations of one quarter to one half inch common. There were numerous reports of downed trees and power lines, as well as numerous traffic accidents. No fatalities or major injuries were reported.
White Heath	3/30/2005	Hail	1.00 in.	0	0	0	0	None Reported
Hammond	5/13/2005	Hail	1.00 in.	0	0	0	0	None Reported
Piatt	7/22/2005	Excessive Heat	N/A	1	0	0	0	A period of excessive heat and humidity developed across all of central and southeast Illinois from July 22nd through the 25th. Daytime high temperatures ranged from the middle 90s to around 100 degrees daily, with overnight low temperatures only falling into the middle and upper 70s. The high humidity values pushed afternoon and early evening heat indices into the 105 to 115 degree range. The heat wave resulted in one direct fatality.
Monticello	7/26/2005	Tstm Wind	50 kts.	0	0	0	0	Several trees and large branches blown down.
Cisco	8/19/2005	Tstm Wind	50 kts.	0	0	0	0	Several tree limbs and power lines blown down.
Bement	4/2/2006	Tstm Wind	55 kts.	0	0	0	0	Ten power poles and numerous tree limbs blown down. Large outbuilding destroyed three miles west of town.
Hammond	4/2/2006	Tstm Wind	55 kts.	0	0	0	0	Power lines blown down.
Cisco	4/14/2006	Tstm Wind	52 kts.	0	0	0	0	Power lines blown down at Highway 48 and 1700 North.
Cisco	4/16/2006	Tstm Wind	50 kts.	0	0	0	0	None Reported
Monticello	4/16/2006	Hail	0.75 in.	0	0	0	0	None Reported
Hammond	4/19/2006	Hail	0.88 in.	0	0	0	0	None Reported
Cisco	4/19/2006	Hail	0.88 in.	0	0	0	0	None Reported
Mansfield	4/19/2006	Hail	0.75 in.	0	0	0	0	None Reported

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Bement	5/31/2006	Tornado	F0	0	0	0	0	The tornado briefly touched down in a field. No damage or injuries were reported.
Bement	6/19/2006	Hail	0.75 in.	0	0	0	0	None Reported
Cisco	7/26/2006	Tornado	F0	0	0	0	0	A tornado briefly touched down in a field causing crop damage.
Monticello	7/26/2006	Tornado	F0	0	0	0	0	A tornado briefly touched down in a field causing crop damage.
De Land	7/26/2006	Flash Flood	N/A	0	0	0	0	Water was flowing across Main Street
Piatt	7/27/2006	Flash Flood	N/A	0	0	0	0	Widespread flooding was reported across the county. Several roads had water flowing over them, including State Route 10.
Piatt	7/30/2006	Heat	N/A	1	0	0	0	An extended period of heat and humidity occurred across central and southeast Illinois from July 30th to August 2nd. Afternoon high temperatures ranged from 94 to 100 degrees most afternoons, with afternoon heat indices ranging from 105 to 110. Overnight lows only fell into the mid 70s. A 39 year old male from Mapleton (Peoria County) suffered a heart attack and died in his mobile home. The death was attributed to the heat. However, the home was not air conditioned and he was taking a medication that prevented him from sweating.
Piatt	8/1/2006	Heat	N/A	0	0	0	0	An extended period of heat and humidity occurred across central and southeast Illinois from July 30th to August 2nd. Afternoon high temperatures ranged from 94 to 100 degrees most afternoons, with afternoon heat indices ranging from 105 to 110. Overnight lows only fell into the mid 70s.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	12/1/2006	Winter Storm	N/A	0	0	0	0	Declared state disaster area. Snow accumulations of 6 to 10 inches fell on top a significant accumulation of ice. A major winter storm moved through the Midwest from November 29th into December 1st. Freezing rain moved into west central and central Illinois during the late hours of November 29th. The freezing rain mixed with and changed to heavy sleet, which persisted for 6 to 8 hours during the evening hours of November 30th. Ice accumulations ranged from 0.25 to 0.70 inches across much of central Illinois, with heavy sleet accumulations ranging from 0.50 to 2.20 inches. The precipitation changed over to snow across west central Illinois by the evening hours on November 30th and during the overnight hours across central Illinois. Snow accumulations along and west of the Illinois River valley ranged from 8 to 15 inches. Further east, 3 to 8 inches of snow was reported on top of the significant ice and sleet accumulations. The precipitation tapered off on December 1st. Considerable tree and power line damage was caused by the ice and heavy snow, especially across central Illinois. The power was not restored across some locales for several days. The snow and ice covered roads also resulted in numerous vehicular accidents. 22 counties in the Central Illinois National Weather Service Forecast Area were designated a state disaster area and 18 counties were designated a federal disaster area.
Piatt	2/12/2007	Winter Storm	N/A	0	0	0	0	Snowfall totals averaged 7 to 9 inches. Significant blowing and drifting snow also occurred. One of the most significant snowstorms in nearly a decade struck central Illinois on February 13, producing blizzard conditions in many locations. Snow began falling during the late evening hours of February 12 and did not come to an end until 24 hours later. The extended period of snow produced impressive accumulations across parts of central Illinois, particularly along the I-72 corridor where between 10 and 15 inches was common. Further north and south, snow totals gradually tapered downward. In addition to the heavy snowfall, strong northerly winds gusting from 35 to 45 mph created blizzard conditions. Visibilities were reduced to less than a quarter of a mile at times in falling and/or blowing snow. Many locations reported snow drifts ranging from 3 to 6 feet, prompting the closure of several area roadways.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	4/5/2007	Frost/freeze	N/A	0	0	0	0	An extended period of cold weather occurred across central and southeast Illinois during the first two weeks of April. Several hard freezes occurred at night during this time. The cold snap occurred after a period of unseasonably mild weather in late March which resulted in plants and flowers leafing out and blooming earlier than normal. The hard freeze caused considerable damage to the plants that started their growth early due to the warm conditions in late March. The most significant agricultural damage occurred to winter wheat, mainly in locations along and south of I-72. Damage estimates will be unknown until late summer.
Monticello	5/15/2007	Tstm Wind	52 kts.	0	0	3K	0	Numerous large tree limbs were blown down. One limb tore a porch roof off a house. Thunderstorms fired along and ahead of a cold front passing through central Illinois. Several of the storms produced severe wind gusts.
Cisco	10/18/2007	Tstm Wind	52 kts.	0	0	22K	0	Trees were damaged, a trampoline was blown into a tree in a tree, and a semi truck flipped over. A strong cold front moved through central and southeast Illinois during the afternoon hours of the 18th. Severe thunderstorms developed along and ahead of this front.
De Land	10/18/2007	Hail	0.88 in.	0	0	0	0	A strong cold front moved through central and southeast Illinois during the afternoon hours of the 18th. Severe thunderstorms developed along and ahead of this front.
Piatt	12/8/2007	Ice Storm	N/A	0	0	0	0	A winter storm brought an extended period of freezing rain to portions of central Illinois on December 8th and 9th. The area most impacted by the ice storm received widespread 3 to 4 tenths of an inch of ice. Localized measurements of 5 to 7 tenths of an inch of ice were reported. The areas receiving half inch or greater ice accumulation also had the most significant tree and power line damage. Many vehicular accidents were reported.
Piatt	12/15/2007	Heavy Snow	N/A	0	0	0	0	Heavy snow fell across McLean county, with 6 to 9 inch snowfall totals common.
Piatt	1/31/2008	Heavy Snow	N/A	0	0	0	0	A major winter storm lifted from the southern plains into the Ohio Valley from January 31st into February 1st. This storm produced heavy snow, at least 6 inches, across much of central Illinois. The accumulating snow began during the afternoon hours of the 31st and ended during the morning hours of the 1st.
Piatt	2/4/2008	Dense Fog	N/A	0	0	0	0	A period of rain and mild temperatures over melting snow pack cause an extended period of dense fog across much of central and southeast Illinois. Numerous school closures and vehicular accidents occurred as a result of the dense fog.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Monticello	2/6/2008	Flash Flood	N/A	0	0	0	0	Thunderstorms developed in the vicinity of a warm front over east central and southeast Illinois during the afternoon hours of February 5th. Many of the thunderstorms on either side of the front produced heavy rains and flooding. The storms to the south of the warm front also produced damaging winds and hail, especially along and south of the I-70 corridor. The flooding produced numerous road closures across the region, while the winds produced primarily tree, power line and power pole damage. However, several structures received minor, mainly roofing damage and one mobile home was destroyed.
Burrowsville	5/2/2008	Tstm Wind	50 kts.	0	0	10K	0	Scattered thunderstorms developed across central Illinois during the morning hours of May 2nd. A few of these storms produced wind damage or large hail.
La Place	7/7/2008	Flash Flood	N/A	0	0	0	0	Six to eight inches of water was flowing across IL Route 32 between the town of LaPlace and US-36. Thunderstorms developed and moved across parts of central Illinois during the early morning hours of 7/7/08. Locally heavy rainfall of between 2 and 4 inches was observed in a few locations, particularly across DeWitt and Piatt counties.
Cerro Gordo	7/8/2008	Tstm Wind	52 kts.	0	0	15K	0	Trees were blown down near the Macon/Piatt County line just west of Cerro Gordo. A strong cold front pushed into central Illinois on 7/8/08, triggering strong to severe thunderstorms. The storms produced wind gusts as high as 70 mph and widespread wind damage, particularly across east-central Illinois along and east of I-57.
Piatt	1/6/2009	Winter Weather	N/A	0	0	0	0	A storm system tracked from the Texas panhandle northeastward into the Ohio River Valley on January 6th, spreading a mixture of light freezing rain, sleet, and snow across central and southeast Illinois. Locations along and south of the I-72 corridor experienced the most serious impacts from this system, as a prolonged period of freezing drizzle created icy road conditions and numerous traffic accidents.
Piatt	1/15/2009	Extreme Cold/wind Chill	N/A	1	0	0	0	A man was found dead outside near a pond at an apartment complex in Normal on the morning of January 15th. An autopsy report indicated he died due to exposure to the extreme cold. Low temperatures were around 20 below zero with wind chills of 35 below to 40 below zero. Bitterly cold air poured into central Illinois in the wake of a departing storm system. Thanks to clear skies over a fresh snow cover, early morning temperatures on January 15th and 16th plunged well below zero in much of central and eastern Illinois. In addition, brisk northwesterly winds created wind-chill values in the 25 below to 40 below zero range.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	2/21/2009	Winter Weather	N/A	0	0	0	0	One to two inches of snow resulted in three separate traffic accidents on I-72 near Monticello between 8:45 AM and 9:00 AM. The first accident resulted in an indirect fatality and three injuries, while two more injuries were a result of the next two accidents in the same vicinity. A weak area of low pressure moving through the Ohio Valley produced 1 to 3 inches of snow in north central and eastern Illinois. The snowfall produced slippery travel conditions and numerous auto accidents.
Monticello	5/13/2009	Tstm Wind	61 kts.	0	0	35K	0	Several large trees were blown down and roof damage occurred to 3 homes in Monticello. An impressive upper-level wave tracking across the Northern Plains helped push a strong cold front toward the Mississippi River by the evening of May 13th. An increasingly unstable and sheared air mass across central Illinois allowed severe thunderstorms to develop in advance of the front. Widespread wind damage occurred with the storms, with 4 tornadoes touching down around the area as well. The thunderstorms also produced torrential rainfall, with widespread 2 to 4 inch amounts reported. This produced flash flooding in much of central and southeast Illinois from the evening of the 13th until the morning of the 14th.
Cisco	5/14/2009	Flash Flood	N/A	0	0	0	0	Heavy rain of 2.50 to 4.00 inches within three hours produced significant flash flooding of most roads in Piatt County. An impressive upper-level wave tracking across the Northern Plains helped push a strong cold front toward the Mississippi River by the evening of May 13th. An increasingly unstable and sheared air mass across central Illinois allowed severe thunderstorms to develop in advance of the front. Widespread wind damage occurred with the storms, with 4 tornadoes touching down around the area as well. The thunderstorms also produced torrential rainfall, with widespread 2 to 4 inch amounts reported. This produced flash flooding in much of central and southeast Illinois from the evening of the 13th until the morning of the 14th.
Monticello	5/15/2009	Hail	2.75 in.	0	0	255K	0	Large hail damaged siding, gutters, roofs, and windows to numerous homes in the Long Grove subdivision west of Monticello. Hail up to 2.75 inches in diameter was also reported on the east side of Monticello, where several cars were damaged. A warm front lifted northward into the region during the early morning hours of May 15th. These storms tracked eastward into north-central Illinois producing very heavy rain west of the Illinois River during the morning. Additional strong to severe thunderstorms developed further south along the warm front in the afternoon. These storms produced numerous reports of large hail, heavy rainfall, and flash flooding - including a fatality in a vehicle due to high water late in the evening. This was the second heavy rain episode within three days in central Illinois. There were also isolated reports of wind damage in central Illinois.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Monticello	5/15/2009	Lightning	N/A	0	0	60K	0	Lightning struck a power pole on the east side of Monticello. The lightning strike caused damage to electrical systems and appliances in several homes. There were no injuries. A warm front lifted northward into the region during the early morning hours of May 15th, triggering a large complex of thunderstorms across Iowa. These storms tracked eastward into north-central Illinois producing very heavy rain west of the Illinois River during the morning. Additional strong to severe thunderstorms developed further south along the warm front in the afternoon. These storms produced numerous reports of large hail, heavy rainfall, and flash flooding - including a fatality in a vehicle due to high water late in the evening. This was the second heavy rain episode within three days in central Illinois. There were also isolated reports of wind damage in central Illinois
Cisco	5/15/2009	Hail	0.75 in.	0	0	0	0	A warm front lifted northward into the region during the early morning hours of May 15th, triggering a large complex of thunderstorms across Iowa. These storms tracked eastward into north-central Illinois producing very heavy rain west of the Illinois River during the morning. Additional strong to severe thunderstorms developed further south along the warm front in the afternoon. These storms produced numerous reports of large hail, heavy rainfall, and flash flooding - including a fatality in a vehicle due to high water late in the evening. This was the second heavy rain episode within three days in central Illinois. There were also isolated reports of wind damage in central Illinois.
Monticello	5/15/2009	Hail	1.25 in.	0	0	0	0	A warm front lifted northward into the region during the early morning hours of May 15th, triggering a large complex of thunderstorms across Iowa. These storms tracked eastward into north-central Illinois producing very heavy rain west of the Illinois River during the morning. Additional strong to severe thunderstorms developed further south along the warm front in the afternoon. These storms produced numerous reports of large hail, heavy rainfall, and flash flooding - including a fatality in a vehicle due to high water late in the evening. This was the second heavy rain episode within three days in central Illinois.
Monticello	5/15/2009	Hail	0.88 in.	0	0	0	0	A warm front lifted northward into the region during the early morning hours of May 15th, triggering a large complex of thunderstorms across Iowa. These storms tracked eastward into north-central Illinois producing very heavy rain west of the Illinois River during the morning. Additional strong to severe thunderstorms developed further south along the warm front in the afternoon. These storms produced numerous reports of large hail, heavy rainfall, and flash flooding - including a fatality in a vehicle due to high water late in the evening. This was the second heavy rain episode within three days in central Illinois.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
De Land	5/15/2009	Flash Flood	N/A	0	0	0	0	Heavy rain of 1.00 to 1.50 inches fell within one hour, on already saturated ground, across central Piatt County. This produced extensive flash flooding, particularly on rural roads and on streets in the city of Monticello. A warm front lifted northward into the region during the early morning hours of May 15th, triggering a large complex of thunderstorms across Iowa. These storms tracked eastward into north-central Illinois producing very heavy rain west of the Illinois River during the morning. Additional strong to severe thunderstorms developed further south along the warm front in the afternoon. These storms produced numerous reports of large hail, heavy rainfall, and flash flooding - including a fatality in a vehicle due to high water late in the evening. This was the second heavy rain episode within three days in central Illinois.
Monticello	5/30/2009	Hail	1.00 in.	0	0	0	0	An upper-level disturbance and associated cold front triggered scattered thunderstorms across central Illinois during the evening of May 30th. Some of the storms became severe, producing large hail and damaging winds.
Mansfield	6/18/2009	Tstm Wind	61 kts.	0	0	30K	0	Numerous trees and power lines were blown down. A line of severe thunderstorms produced wind gusts of 60 to 85 mph, large hail, torrential rainfall, and nearly continuous lightning across much of central and southeast Illinois during the early morning of June 18th. The high winds resulted in multiple power outages, downed trees and power lines, and damage to light poles, outbuildings, and several homes.
White Heath	6/18/2009	Tstm Wind	61 kts.	0	0	30K	0	Numerous trees and power lines were blown down. A line of severe thunderstorms produced wind gusts of 60 to 85 mph, large hail, torrential rainfall, and nearly continuous lightning across much of central and southeast Illinois during the early morning of June 18th. The high winds resulted in multiple power outages, downed trees and power lines, and damage to light poles, outbuildings, and several homes.
Atwood	6/18/2009	Tstm Wind	61 kts.	0	0	0	0	Numerous trees and power lines were blown down. A line of severe thunderstorms produced wind gusts of 60 to 85 mph, large hail, torrential rainfall, and nearly continuous lightning across much of central and southeast Illinois during the early morning of June 18th. The high winds resulted in multiple power outages, downed trees and power lines, and damage to light poles, outbuildings, and several homes.
Mansfield	6/19/2009	Tstm Wind	52 kts.	0	0	25K	0	Several trees were blown down, causing damage to a home. A cold front triggered severe thunderstorms across central Illinois during the late afternoon of June 19th into the early morning hours of June 20th. Additional storms swept across the region during the late afternoon and evening, producing widespread wind damage. Heavy rain in parts of southeast Illinois late in the evening resulted in areas of flash flooding.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Galesville	6/19/2009	Tstm Wind	52 kts.	0	0	0	0	Numerous tree limbs were blown down. A cold front triggered severe thunderstorms across central Illinois during the late afternoon of June 19th into the early morning hours of June 20th. Additional storms swept across the region during the late afternoon and evening, producing widespread wind damage. Heavy rain in parts of southeast Illinois late in the evening resulted in areas of flash flooding.
Cisco	6/19/2009	Tstm Wind	52 kts.	0	0	15K	0	Several trees were blown down. A cold front triggered severe thunderstorms across central Illinois during the late afternoon of June 19th into the early morning hours of June 20th. Additional storms swept across the region during the late afternoon and evening, producing widespread wind damage. Heavy rain in parts of southeast Illinois late in the evening resulted in areas of flash flooding.
Cisco	6/19/2009	Tstm Wind	52 kts.	0	0	60K	0	Several trees were blown down. A cold front triggered severe thunderstorms across central Illinois during the late afternoon of June 19th into the early morning hours of June 20th. Additional storms swept across the region during the late afternoon and evening, producing widespread wind damage. Heavy rain in parts of southeast Illinois late in the evening resulted in areas of flash flooding.
Galesville	6/19/2009	Tstm Wind	52 kts.	0	0	0	0	Numerous tree limbs were blown down. A cold front triggered severe thunderstorms across central Illinois during the late afternoon of June 19th into the early morning hours of June 20th. Additional storms swept across the region during the late afternoon and evening, producing widespread wind damage. Heavy rain in parts of southeast Illinois late in the evening resulted in areas of flash flooding.
White Heath	8/4/2009	Tstm Wind	61 kts.	0	0	8K	0	A 2-foot diameter tree was blown down onto a house 1 mile north of White Heath. A large bow echo developed in advance of a front across southern Iowa and northern Missouri during the early morning hours of August 4th. The storms then raced eastward across central and southeast Illinois, producing wind gusts of between 60 and 70 mph
Monticello	8/19/2009	Tstm Wind	52 kts.	0	0	10K	0	Numerous 3-inch diameter tree limbs were blown down in Monticello. A vigorous upper-level disturbance in conjunction with a warm front lifting northward through central Illinois triggered strong to severe thunderstorms during the afternoon and evening of August 19th. Embedded supercells within a long line of storms produced enhanced wind damage and tornadoes.

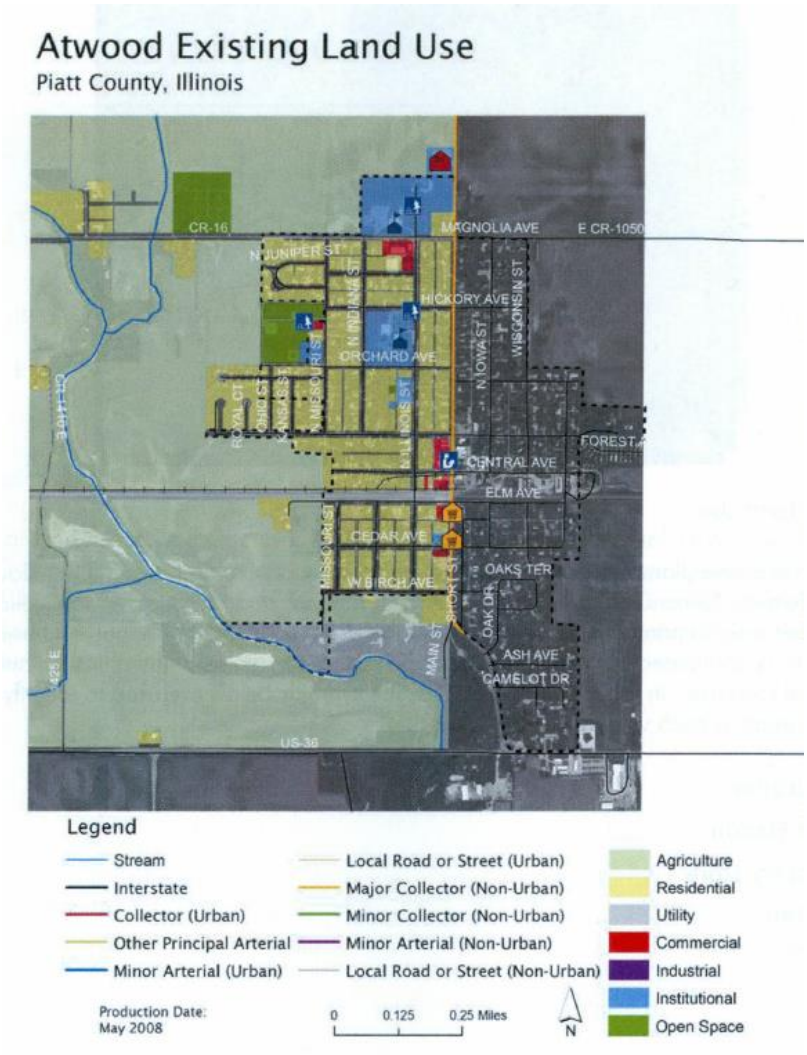
Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Monticello	8/19/2009	Tstm Wind	52 kts.	0	0	25K	0	A large tree was blown onto a home on the east side of Monticello. A nearby barn had its doors ripped off and part of its roof damaged. A vigorous upper-level disturbance in conjunction with a warm front lifting northward through central Illinois triggered strong to severe thunderstorms during the afternoon and evening of August 19th. Embedded supercells within a long line of storms produced enhanced wind damage and tornadoes.
Hammond	8/19/2009	Tstm Wind	52 kts.	0	0	17K	0	A large tree was blown down onto an apartment building in Hammond. A vigorous upper-level disturbance in conjunction with a warm front lifting northward through central Illinois triggered strong to severe thunderstorms during the afternoon and evening of August 19th. Embedded supercells within a long line of storms produced enhanced wind damage and tornadoes.
Piatt	1/6/2010	Winter Storm	N/A	0	0	0	0	Numerous weather observers across Piatt County measured around 6 inches of snow. An area of low pressure tracking from the Plains northeastward into the Great Lakes brought a period of moderate to heavy snow to parts of central Illinois from the evening of January 6th through the morning of January 7th. Snowfall was greatest along and north of I-72...where 5 to 7 inch totals were common. Once the snow subsided, gusty northwesterly winds created considerable blowing and drifting across the area through the night of January 7th.
Piatt	2/8/2010	Winter Weather	N/A	0	0	0	0	Numerous weather observers across Piatt County measured around 6 inches of snow. An area of low pressure tracking from the Plains northeastward into the Great Lakes brought a period of moderate to heavy snow to parts of central Illinois from the evening of January 6th through the morning of January 7th. Snowfall was greatest along and north of I-72...where 5 to 7 inch totals were common. Once the snow subsided, gusty northwesterly winds created considerable blowing and drifting across the area through the night of January 7th.
La Place	4/5/2010	Hail	0.75 in.	0	0	0	0	Supercell thunderstorms developed along an advancing warm front during the afternoon of April 5th. Many of the storms produced large hail and a few caused 50 to 60 mph wind gusts as well.
Piatt	4/29/2010	High Wind	55 kts.	0	0	1K	0	A highway sign was blown over at mile marker 162 on I-72 2 miles west of Monticello.
Monticello	5/24/2010	Hail	0.88 in.	0	0	0	0	An unseasonably hot and humid air mass was in place across central Illinois on May 24th with afternoon high temperatures reaching the lower 90s. A weak upper-level disturbance interacted with the unstable environment to produce scattered thunderstorms during the evening. A few of the storms produced hail and gusty winds. The storms were very slow moving, so copious amounts of rainfall produced flash flooding in a few spots.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Cerro Gordo	7/24/2010	Flash Flood	N/A	0	0	0	0	A thunderstorm produced a heavy downpour with more than 1.50 of rain in 30 minutes across southern Piatt County. Numerous rural roads were flooded as a result. An outflow boundary from a large complex of thunderstorms that tracked across Iowa and northern Illinois the night before dropped southward on July 24th. Convection developed along this boundary, with a bow echo eventually taking shape across northern Missouri. As these storms moved into west-central Illinois, numerous reports of wind damage were received. Additional thunderstorms developing behind the initial line led to a heavy rain event during the evening and overnight hours, with many locations picking up between 2 and 4 inches of rain.
Piatt	8/3/2010	Excessive Heat	N/A	0	0	0	0	A large upper-level ridge of high pressure over the southern U.S. produced an extended period of hot and humid weather across central Illinois. With actual air temperatures well into the 90s and dew points in the upper 70s...heat index readings soared above 105 degrees.
Piatt	12/12/2010	Blizzard	N/A	0	0	0	0	Several traffic accidents occurred as a result of icy road conditions and poor visibility, including one that claimed the life of a woman west of Thomasboro. An intense area of low pressure tracked from Iowa into the eastern Great Lakes on Sunday, December 12th. Lighter snow ranging from 2 to 4 inches fell further south across central Illinois. As the low deepened, strong northwesterly winds gusting over 50 mph at times developed, creating white-out conditions in many locations. Sharply colder air streamed into the region behind the departing system, resulting in wind-chill values plunging well below zero into December 13th.
Piatt	12/12/2010	Winter Weather	N/A	0	0	0	0	An intense area of low pressure tracked from Iowa into the eastern Great Lakes on Sunday, December 12th. Lighter snow ranging from 2 to 4 inches fell further south across central Illinois. As the low deepened, strong northwesterly winds gusting over 50 mph at times developed, creating white-out conditions in many locations. Sharply colder air streamed into the region behind the departing system, resulting in wind-chill values plunging well below zero into December 13th.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	2/1/2011	Blizzard	N/A	0	0	200K	0	Thunder snow was reported from 1800 to 1900 LST on 2/1/11. 45 to 55 mph winds accompanied the snow, reducing the visibility to near zero. As a result of the blizzard conditions, travel became nearly impossible across the area. In addition, an 80-year old Cuba man suffering from dementia died on February 2nd when he wandered outside of his home into the snow. A powerful storm system tracking from the southern Plains into the Great Lakes brought a wide variety of wintry precipitation to central and southeast Illinois on February 1st into the 2nd. Freezing rain was the primary form of precipitation south of I-70, where ice accumulations of one quarter to three quarters of an inch were common. One quarter to one half an inch of ice accumulated further south close to I-70, while 2 to 4 inches of sleet fell across the rest of the area. Further northwest, heavy snow and extremely strong winds resulted in blizzard conditions along and northwest of the I-55 corridor. 12 to 18 inches of snow, with locally higher amounts, were common. New records for 24 hour snowfall were set at 11 cooperative observation locations in central and west central Illinois. The extreme winter precipitation created nearly impossible travel conditions at times and resulted in numerous accidents and injuries across central and southeast Illinois. Numerous county highways and several interstates were closed...including I-55, I-72, I-74 and I-155...from the afternoon of February 1st through much of the day February 2nd. The National Guard made nearly 200 rescues of stranded motorists in central Illinois, and local emergency managers made dozens of snowmobile rescues in rural locations. All schools in each of the 35 impacted counties were closed for at least three days. Power outages were widespread, impacting nearly one million people. Some locations in southeast Illinois, along and south of I-70 were without power for nearly a week after the storm. Damages done to power lines, power poles, trees and other property due to ice was around $10 Million, while snow removal costs for communities in central and southeast Illinois was more than $4.4 Million.

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage	Description
Piatt	2/1/2011	Winter Storm	N/A	0	0	10K	0	Thunder snow was reported from 1800 to 1900 LST on 2/1/11. 45 to 55 mph winds accompanied the snow, reducing the visibility to near zero. As a result of the blizzard conditions, travel became nearly impossible across the area. In addition, an 80-year old Cuba man suffering from dementia died on February 2nd when he wandered outside of his home into the snow. A powerful storm system tracking from the southern Plains into the Great Lakes brought a wide variety of wintry precipitation to central and southeast Illinois on February 1st into the 2nd. Freezing rain was the primary form of precipitation south of I-70, where ice accumulations of one quarter to three quarters of an inch were common. One quarter to one half an inch of ice accumulated further south close to I-70, while 2 to 4 inches of sleet fell across the rest of the area. Further northwest, heavy snow and extremely strong winds resulted in blizzard conditions along and northwest of the I-55 corridor. 12 to 18 inches of snow, with locally higher amounts, were common. New records for 24 hour snowfall were set at 11 cooperative observation locations in central and west central Illinois. The extreme winter precipitation created nearly impossible travel conditions at times and resulted in numerous accidents and injuries across central and southeast Illinois. Numerous county highways and several interstates were closed...including I-55, I-72, I-74 and I-155...from the afternoon of February 1st through much of the day February 2nd. The National Guard made nearly 200 rescues of stranded motorists in central Illinois, and local emergency managers made dozens of snowmobile rescues in rural locations. All schools in each of the 35 impacted counties were closed for at least three days. Power outages were widespread, impacting nearly one million people. Some locations in southeast Illinois, along and south of I-70 were without power for nearly a week after the storm. Damages done to power lines, power poles, trees and other property due to ice was around $10 Million, while snow removal costs for communities in central and southeast Illinois was more than $4.4 Million.

Appendix D: Existing Land Use by Community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N INDIANA ST
HICKORY AVE
WISCONSIN ST
N IOWA ST
ORCHARD AVE
N MISSOURI ST
N ILLINOIS ST
CENTRAL AVE
ELM AVE
CEDAR AVE
W BIRCH AVE
OAKS TER
OAK DR
MAIN ST
ASH AVE
CAMELOT DR
US-36
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
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Commercial
Industrial
Institutional
Open Space
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May 2008
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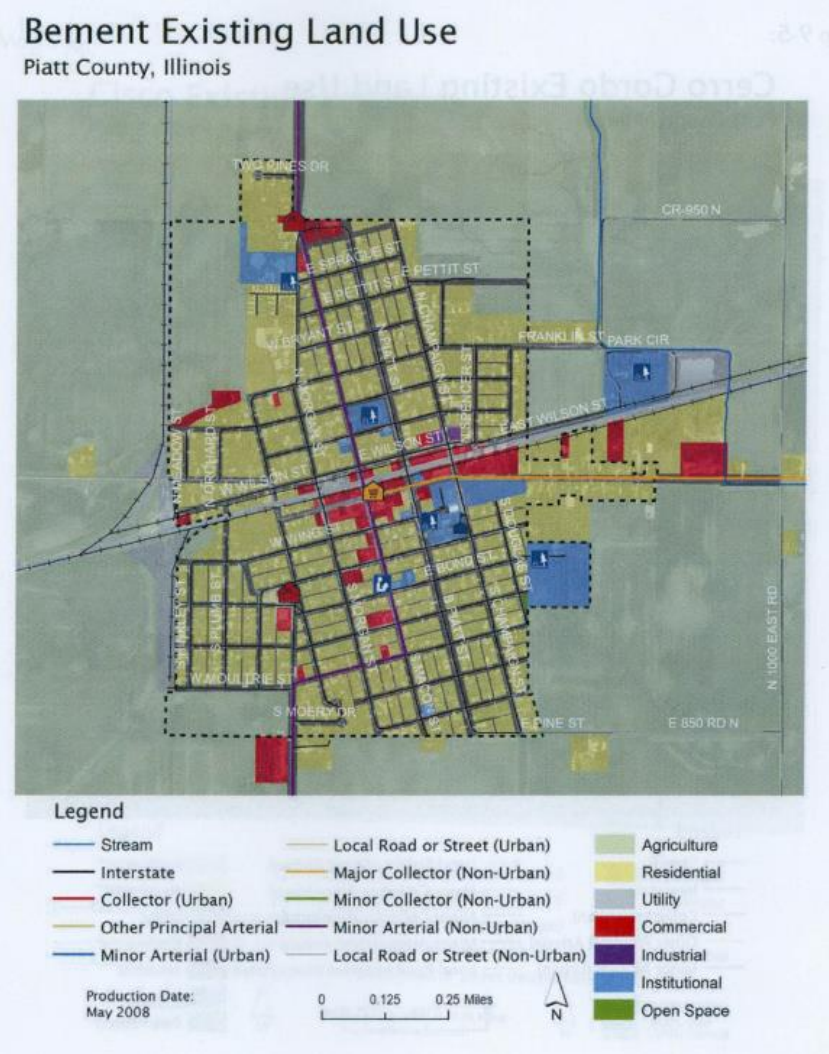
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Piatt County, Illinois
CR-950 N
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E PETTIT ST
W BRYANT ST
FRANKLIN ST
PARK CIR
EAST WILSON ST
E WILSON ST
W WILSON ST
E BOND ST
W MOULTRIE ST
S MOE DR
E 850 RD N
N 1000 EAST RD
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
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May 2008
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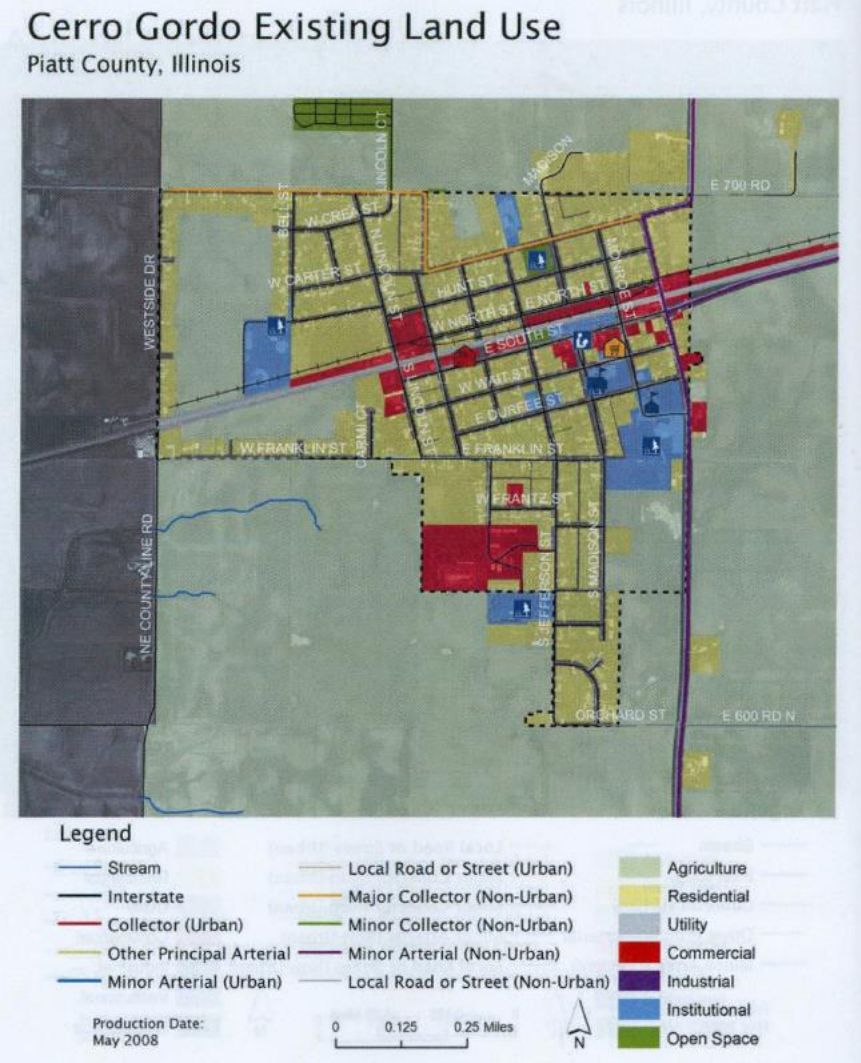
Cerro Gordo Existing Land Use
Piatt County, Illinois
E 700 RD
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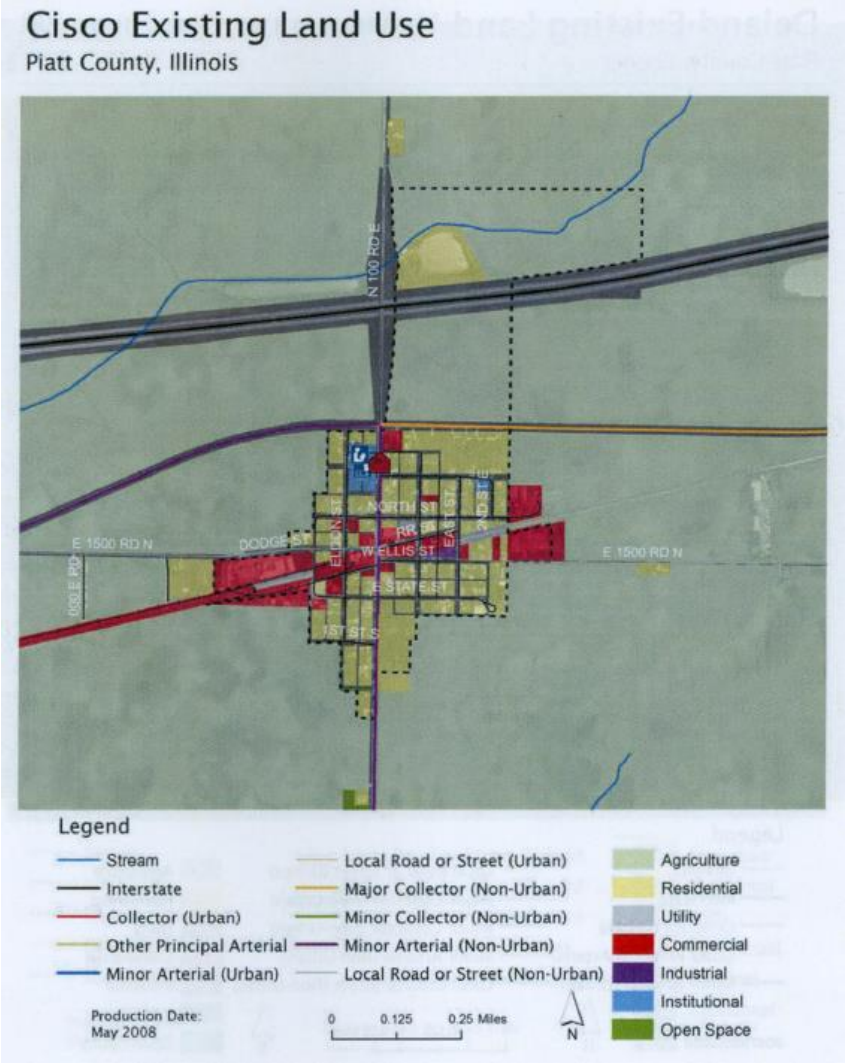
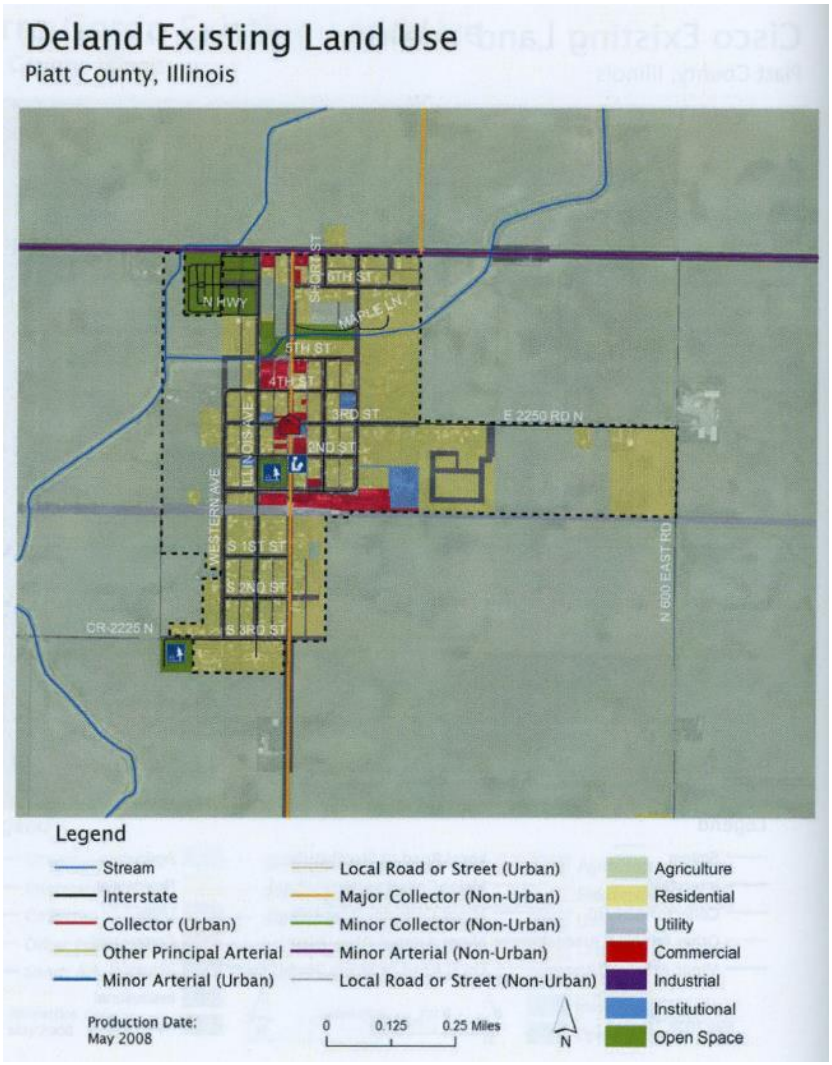
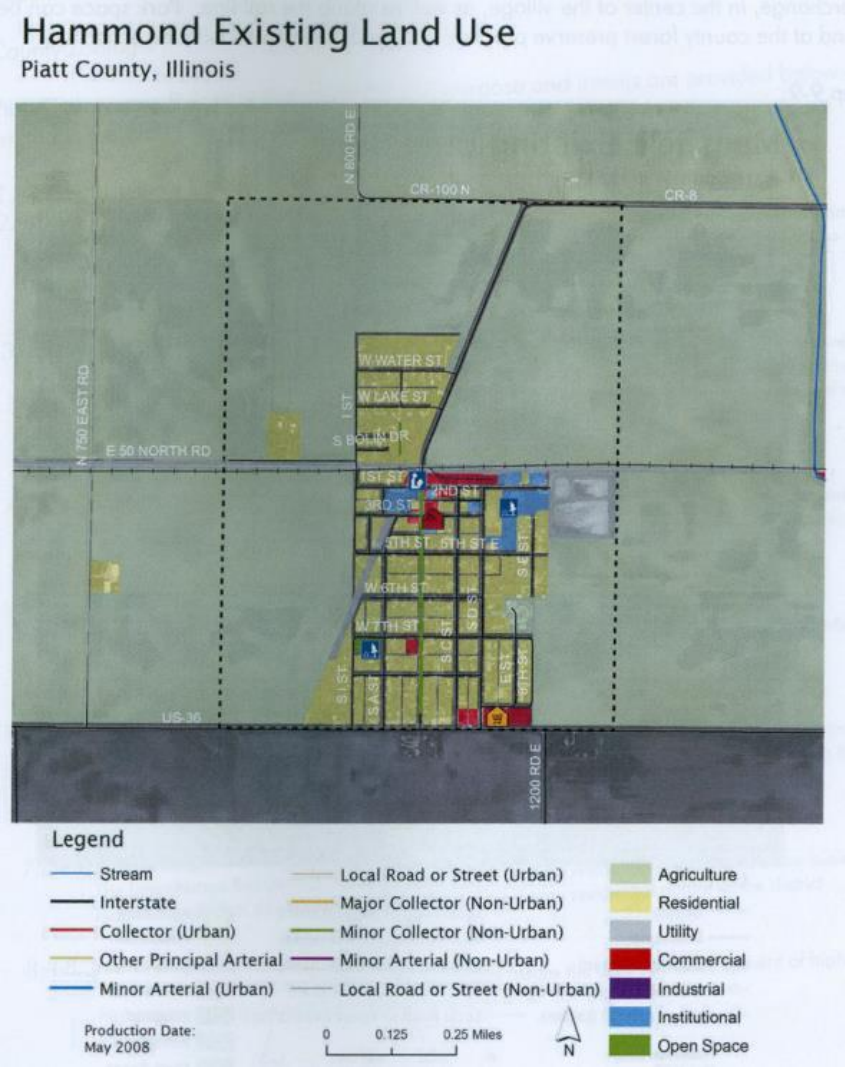
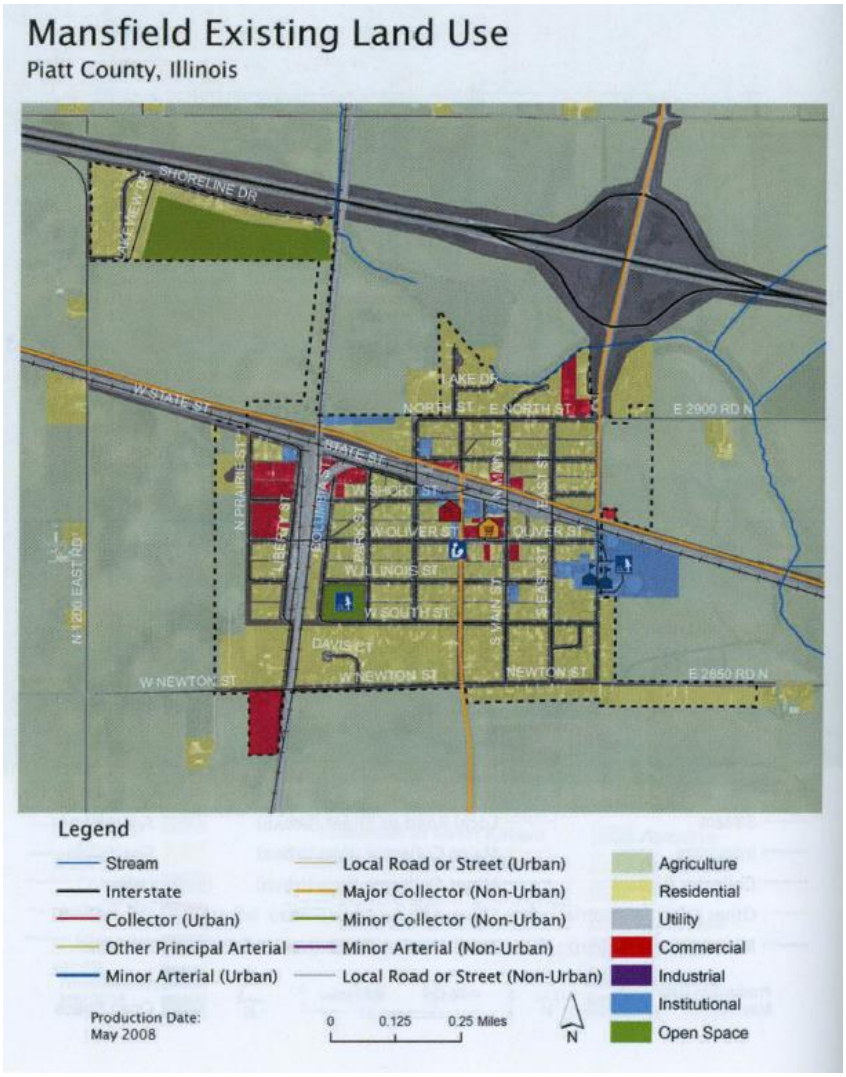
W CARTER ST
HUNT ST
W NORTH ST
E NORTH ST
E SOUTH ST
W WAIT ST
E DUREE ST
W FRANKLIN ST
E FRANKLIN ST
W FRANTZ ST
S MADISON ST
ORCHARD ST
E 600 RD N
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
Agriculture
Residential
Utility
Commercial
Industrial
Institutional
Open Space
Production Date:
May 2008
0 0.125 0.25 Miles
N


Cisco Existing Land Use
Piatt County, Illinois
N T00 RD E
E 1500 RD N
DODGE ST
ELDON ST
NORTH ST
RR
WELLIS ST
EAST ST
RD E
E STATE ST
1ST ST S
E 1500 RD N
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
Agriculture
Residential
Utility
Commercial
Industrial
Institutional
Open Space
Production Date:
May 2008
0
0.125
0.25 Miles
N


Deland Existing Land Use
Piatt County, Illinois
N HWY
SPORT ST
6TH ST
MAPLE LN
5TH ST
4TH ST
3RD ST
2ND ST
E 2250 RD N
ILLINOIS AVE
WESTERN AVE
S 1ST ST
S 2ND ST
S 3RD ST
CR-2225 N
N 600 EAST RD
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
Agriculture
Residential
Utility
Commercial
Industrial
Institutional
Open Space
Production Date:
May 2008
0 0.125 0.25 Miles
N


Hammond Existing Land Use
Piatt County, Illinois
N 800 RD E
CR-100 N
CR-8
N 750 EAST RD
E 50 NORTH RD
W WATER ST
W LAKE ST
1ST
S BOTTOM DR
1ST ST
2ND ST
3RD ST
4TH ST
5TH ST E
S E ST
W 6TH ST
W 7TH ST
S 1ST
S 1ST ST
E ST
US-36
1200 RD E
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
Agriculture
Residential
Utility
Commercial
Industrial
Institutional
Open Space
Production Date:
May 2008
0
0.125
0.25 Miles
N


Mansfield Existing Land Use
Piatt County, Illinois
SHORELINE DR
W STATE ST
LAKE DR
NORTH ST
E NORTH ST
E 2900 RD N
PRAIRIE ST
W SHORE ST
W OLIVER ST
OLIVER ST
W ILLINOIS ST
W SOUTH ST
DAVIS ST
W NEWTON ST
NEWTON ST
E 2850 RD N
N 1200 EAST RD
Legend
Stream
Interstate
Collector (Urban)
Other Principal Arterial
Minor Arterial (Urban)
Local Road or Street (Urban)
Major Collector (Non-Urban)
Minor Collector (Non-Urban)
Minor Arterial (Non-Urban)
Local Road or Street (Non-Urban)
Agriculture
Residential
Utility
Commercial
Industrial
Institutional
Open Space
Production Date:
May 2008
0 0.125 0.25 Miles
N

Appendix E: Piatt County Facilities: Essential, Critical, & Community Assets

ESSENTIAL FACILITIES OF SPENCER COUNTY

Essential Facility Name	Facility Type	Location
John and Mary Kirby Hospital	Care Facility	Monticello
Kirby Hospital	Care Facility	Monticello
Piatt County Nursing Home	Care Facility	Monticello
Piatt County EMA	Emergency Center	Monticello
Northern Piatt County Fire Protection	Fire Station	Mansfield
Monticello Fire & Rescue	Fire Station	Monticello
Hammond Fire Protection District	Fire Station	Hammond
Cisco Fire Protection District	Fire Station	Cisco
Mid-Piatt Fire Protection District	Fire Station	Monticello
Atwood Fire Department	Fire Station	Atwood
Bement Fire Department	Fire Station	Bement
Mid-Piatt Fire	Fire Station	White Heath
Deland Community Fire PD	Fire Station	Deland
Piatt County Sheriff	Police Station	Monticello
Cerro Gordo Village Police	Police Station	Cerro Gordo
Bement Police Dept	Police Station	Bement
Piatt County Sheriff # 2	Police Station	Monticello
Monticello City Police	Police Station	Monticello
Blue Ridge Junior High School	School	Mansfield
Blue Ridge Mansfield Elementary	School	Mansfield
Cerro Gordo Elementary School	School	Cerro Gordo
Atwood Hammond High School	School	Atwood
Bement High School	School	Bement
Bement Elementary School	School	Bement
Bement Middle School	School	Bement
Cerro Gordo Middle School	School	Cerro Gordo
Cerro Gordo High School	School	Cerro Gordo
Deland-Weldon Middle School	School	Deland
Deland-Weldon High School	School	Deland
Deland-Weldon Elementary School	School	Deland
Monticello High School	School	Monticello
Monticello Middle School	School	Monticello
Lincoln Elementary School	School	Monticello
Washington School	School	Monticello
White Heath Elementary School	School	White Heath
Monticello Christian Academy	School	Monticello
Metamorphosis Montessori School	School	Monticello
Faith Christian School	School	Monticello

CRITICAL FACILITIES OF PIATT COUNTY

Critical Facility Name	Facility Type	Location
Piatt County Airport	Airport	Monticello
Clapper Airfield	Airport	Mansfield
Van Gorder	Airport	Mansfield
Niklaus Rla Airport	Airport	Deland
Gaitros Airport	Airport	Cerro Gordo
Triple Creek Airport	Airport	Bement
Tower #2	Communication Facility	Monticello
Tower #4, Highway 10	Communication Facility	Deland
Tower #5, Bement Cell	Communication Facility	Bement
Tower #6, 8 KM West Monticello	Communication Facility	Monticello
Tower #7, 3 M West Monticello	Communication Facility	Monticello
Tower #8	Communication Facility	Monticello
Tower #9, SR 48	Communication Facility	Cisco
Tower #10, 2 M West Hammond	Communication Facility	Hammond
Tower #11, S of SR Deland	Communication Facility	Deland
Tower #12, 1200 North Road	Communication Facility	Monticello
Tower #13, 4 M NW	Communication Facility	Monticello
Tower #14	Communication Facility	Monticello
Tower #15, 3.5 M NW	Communication Facility	Monticello
Tower #16, US 36	Communication Facility	Hammond
Tower #17, 2 M West	Communication Facility	Hammond
Tower #18, 2.5 M West	Communication Facility	Bement
Tower #19, I72	Communication Facility	Monticello
Tower #20	Communication Facility	Monticello
Tower #22	Communication Facility	Monticello
Tower #23, CR 800 - A	Communication Facility	Monticello
Tower #24	Communication Facility	Monticello
Tower #25, CR 800 - B	Communication Facility	Monticello
Tower #26	Communication Facility	Monticello
Tower #27, .68 M	Communication Facility	Bement
Tower #28, Will Tower	Communication Facility	Monticello
Tower #29	Communication Facility	Monticello
Tower #30, Will Radio Station	Communication Facility	Monticello
Tower #31	Communication Facility	Monticello
Tower #32, Will Radio Station I72	Communication Facility	Monticello
Tower #33, Will Tower I72	Communication Facility	Monticello
Tower #34, Willow Branch	Communication Facility	Monticello
Tower #35, I72 8 KM West	Communication Facility	Monticello
Tower #36	Communication Facility	Bement
Tower #37	Communication Facility	Monticello
Tower #38	Communication Facility	Monticello
Four H Memorial Lake Dam	Dams	Monticello

Critical Facility Name	Facility Type	Location
Biccgeneral Cable	Hazmat	Monticello
Viobin USA	Hazmat	Monticello
Deland Water Tower	Potable Water	Deland
Main Street Water Tower	Potable Water	White Heath
Water Storage	Potable Water	Mansfield
Water Tower	Potable Water	Monticello
Water Tower	Potable Water	Mansfield
Water Tower	Potable Water	Bement
Water Tower	Potable Water	Cerro Gordo
Water Tower	Potable Water	Laplace
Bement Grain Company	Rail Facility	Bement
Rail Facility #1	Rail Facility	Monticello
Rail Facility #2	Rail Facility	Monticello
Rail Facility	Rail Facility	Mansfield
Rail Facility	Rail Facility	Galesville
Rail Facility	Rail Facility	Cerro Gordo
Rail Facility	Rail Facility	Lodge
Atwood STP	Waste Water Treatment	Atwood
Bement STP	Waste Water Treatment	Bement
Monticello WWTP	Waste Water Treatment	Monticello
Monticello STP (west)	Waste Water Treatment	Monticello

COMMUNITY ASSETS OF PIATT COUNTY

Community Asset	Facility Type	Location
Robert Allerton Park	Community Asset	Monticello
Monticello Courthouse	Community Asset	Monticello

Appendix F – Adopting Resolutions

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, Piatt County recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, Piatt County participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Piatt County Commissioners hereby adopt the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
County Commissioner Chairman

_____
County Commissioner

_____
County Commissioner

_____
County Commissioner

_____
County Commissioner

_____
Attested by: County Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the City of Monticello recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the City of Monticello participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the City of Monticello hereby adopts the Richland County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
City Mayor

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
Attested by: City Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Bement recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Bement participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Bement hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Cerro Gordo recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Cerro Gordo participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Cerro Gordo hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Cisco recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Cisco participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Cisco hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Deland recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Deland participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Deland hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Hammond recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Hammond participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Hammond hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Mansfield recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Mansfield participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Mansfield hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE PIATT COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Atwood recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Atwood participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Atwood hereby adopts the Piatt County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Richland County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Emergency Management Agency and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2012.

_____
Village Board President

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Village Board Member

_____
Attested by: Village Clerk